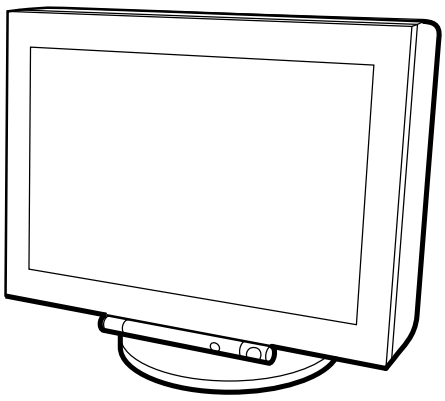
GDM-FW900

SERVICE MANUAL

US Model
Canadian Model
AEP Model

Chassis No. SCC-L34A-A



G1W CHASSIS

SPECIFICATIONS

CRT	0.23 – 0.27 mm aperture grille pitch 24 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 482.1 × 308.2 mm (w/h) (19 × 12 1/4 inches) 19.8" viewing image
Resolution	Maximum (16:10) Horizontal: 2304 dots Vertical: 1440 lines Maximum (4:3) Horizontal: 2048 dots Vertical: 1536 lines Recommended (16:10) Horizontal: 1920 dots Vertical: 1200 lines
Input signal levels	Video signal Analog RGB: 0.700 Vp-p (positive), 75 Ω SYNC signal H/V separate or composite sync: TTL 2 kΩ, Polarity free Sync on Green: 0.3 Vp-p (negative)
Standard image area	16:10 Approx. 474 × 296 mm (w/h) (18 3/4 × 11 3/4 inches) 4:3 Approx. 395 × 296 mm (w/h) (15 5/8 × 11 3/4 inches) 5:4 Approx. 370 × 296 mm (w/h) (14 5/8 × 11 3/4 inches)
Deflection frequency*	Horizontal: 30 to 121 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50/60 Hz, 2.2 – 1.2 A
Power consumption	Approx. 170 W (with no USB devices connected)
Operating temperature	10˚C to 40˚C
Dimensions	Approx. 571.5 × 500 × 522.5 mm (w/h/d) (22 1/2 × 19 3/4 × 20 5/8 inches)
Mass	Approx. 42 kg (92 lb 10 oz)
Plug and Play	DDC1/DDC2B/DDC2Bi, GTF**
Supplied accessories	• Power cord (1) • Video signal cable (1) • USB cable (1) • Exclusive Power Mac G3/G4 adapter (1) • Warranty card (1) • Notes on cleaning the screen's surface (1) • This instruction manual (1)

* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.3 µsec.
- Vertical blanking width should be more than 450 µsec.

** If the input signal is Generalized Timing Formula (GTF) compliant, the GTF feature of the monitor will automatically provide an optimal image for the screen.

Design and specifications are subject to change without notice.

TRINITRON® COLOR GRAPHIC DISPLAY

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

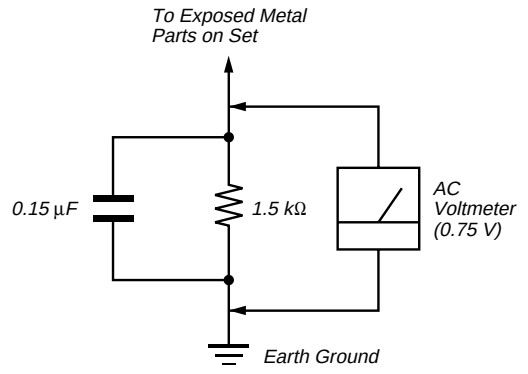


Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!

NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!

NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNEMENT EST SUSPECTÉ.

POWER SAVING FUNCTION

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If the monitor is connected to a computer or video graphics board that is DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 170 W	green
1 standby	≤ 15 W	green and orange alternate
2 suspend (sleep)**	≤ 15 W	green and orange alternate
3 active off*** (deep sleep)**	≤ 1 W	orange
power off	0 W	off

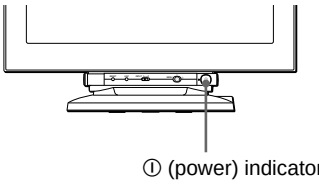
* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.

** "Sleep" and "deep sleep" are power saving modes defined by the Environmental Protection Agency.

*** When your computer enters power saving mode, the input signal is cut and NO INPUT SIGNAL appears on the screen before the monitor enters active off mode. After a few seconds, the monitor enters power saving mode.

DIAGNOSIS

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard or moving the mouse.

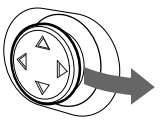


■ If the ⏻ (power) indicator is green

1 Disconnect any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).

2 Press the ⏻ (power) button twice to turn the monitor off and then on.

3 Move the joystick to the right for 2 seconds before the monitor enters power saving mode.



If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

■ If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button twice to turn the monitor off and then on.

If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and graphic board.

TIMING SPECIFICATION

PRIMARY MODE MODE AT PRODUCTION	MODE 1	MODE 2	MODE 3	MODE 4	PRIMARY MODE 5	MODE 6	MODE 7	MODE 8	MODE 9
RESOLUTION (HXV)	640 X 480	720 X 400	1920 X 1080	1600 X 1024	1920 X 1200	2304 X 1440	1600 X 1024	1920 X 1080	1920 X 1080
CLOCK	25.175 MHz	28.322 MHz	172.798 MHz	198.832 MHz	282.744 MHz	383.863 MHz	170.447 MHz	216.023 MHz	216.023 MHz
— HORIZONTAL —									
H-FREQ	31.469 kHz	31.469 kHz	67.080 kHz	91.375 kHz	107.100 kHz	120.560 kHz	81.320 kHz	84.384 kHz	84.384 kHz
	usec	usec	usec	usec	usec	usec	usec	usec	usec
H. TOTAL	31.778	31.777	14.908	10.944	9.337	8.295	12.297	11.851	11.851
H. BLK	6.356	6.355	3.796	2.897	2.546	2.292	2.910	2.963	2.963
H. FP	0.636	0.636	0.694	0.563	0.538	0.458	0.188	0.222	0.222
H. SYNC	3.813	3.813	1.204	0.885	0.736	0.667	0.939	1.000	1.000
H. BP	1.907	1.907	1.898	1.448	1.273	1.167	1.784	1.741	1.741
H. ACTIV	25.422	25.422	11.111	8.047	6.791	6.002	9.387	8.888	8.888
— VERTICAL —									
V. FREQ(Hz)	59.940 Hz	70.087 Hz	60.000 Hz	85.000 Hz	85.000 Hz	80.000 Hz	76.000 Hz	72.000 Hz	72.000 Hz
	lines	lines	lines	lines	lines	lines	lines	lines	lines
V. TOTAL	525	449	1118	1075	1260	1507	1070	1172	1172
V. BLK	45	49	38	51	60	67	46	92	92
V. FP	10	12	1	1	1	1	3	3	3
V. SYNC	2	2	3	3	3	3	3	3	3
V. BP	33	35	34	47	56	63	40	86	86
V. ACTIV	480	400	1080	1024	1200	1440	1024	1080	1080
— SYNC —									
INT(G)	NO	NO	NO	NO	NO	NO	NO	NO	NO
EXT(H/V)/POLARITY	YES N/N	YES N/P	YES N/N	YES N/N	YES N/N	YES N/N	YES N/N	YES N/N	YES N/N
EXT(CS)/POLARITY	NO	NO	NO	NO	NO	NO	NO	NO	NO
INT/NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT	NON INT

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Note: Hand degauss must be used on stand-by or power-off condition.
This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

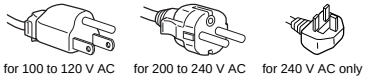
SECTION 1
GENERAL

Precautions

Warning on power connections

- Use the supplied power cord. If you use a different power cord, be sure that it is compatible with your local power supply.
  For the customers in the UK
  If you use the monitor in the UK, be sure to use the supplied UK power cable.

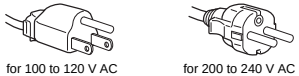
Example of plug types



for 100 to 120 V AC for 200 to 240 V AC for 240 V AC only

For the customers in the U.S.A.
If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.

Example of plug types



for 100 to 120 V AC for 200 to 240 V AC

- Before disconnecting the power cord, wait at least 30 seconds after turning off the power to allow the static electricity on the screen's surface to discharge.
- After the power is turned on, the screen is demagnetized (degaussed) for about 3 seconds. This generates a strong magnetic field around the screen which may affect data stored on magnetic tapes and disks placed near the monitor. Be sure to keep magnetic recording equipment, tapes, and disks away from the monitor.

The equipment should be installed near an easily accessible outlet.

Installation

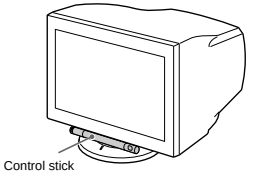
Do not install the monitor in the following places:
- on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies, etc.) that may block the ventilation holes
- near heat sources such as radiators or air ducts, or in a place subject to direct sunlight
- in a place subject to severe temperature changes
- in a place subject to mechanical vibration or shock
- on an unstable surface
- near equipment which generates magnetism, such as a transformer or high voltage power lines
- near or on an electrically charged metal surface

Maintenance

- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the screen's coating.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzene.

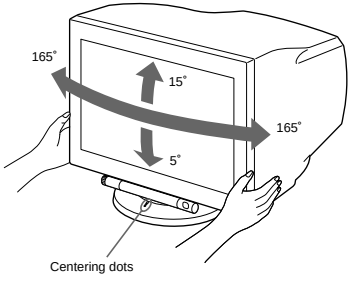
Transportation

When you transport this monitor for repair or shipment, use the original carton and packing materials.
Never grasp the control stick when you transport the monitor.



Use of the tilt-swivel

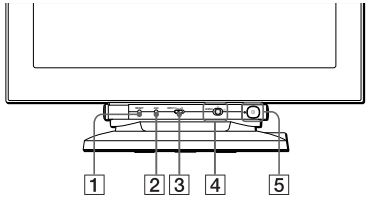
This monitor can be adjusted within the angles shown below. To find the center of the monitor's turning radius, align the center of the monitor's screen with the centering dots on the stand.
Hold the monitor at the bottom with both hands when you turn it horizontally or vertically.



Identifying parts and controls

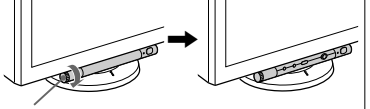
See the pages in parentheses or further details.

Front



To use the control stick
This monitor has a cylindrical swivel control stick. To operate the controls, turn the knob on the left side downward to expose the control buttons. When the control buttons are not needed, turn the knob up to hide the control buttons.

When not using **When using**



1 RESET (reset) button (page 16)
This button resets the adjustments to the factory settings.

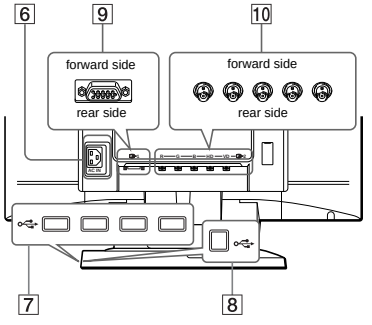
2 ASC (auto sizing and centering) button (page 9)
This button automatically adjusts the size and centering of the picture.

3 INPUT (input) switch (page 9)
This switch selects the HD15 or BNC video input signal.

4 Joystick (page 11)
The joystick is used to display the menu and make adjustments to the monitor, including brightness and contrast adjustments.

5 ⏻ (power) switch and indicator (pages 7, 16, 20)
This button turns the monitor on and off. The power indicator lights up in green when the monitor is turned on, and either flashes in green and orange, or lights up in orange when the monitor is in power saving mode.

Rear

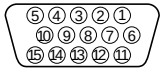


6 AC IN connector (page 7)
This connector provides AC power to the monitor.

7 USB (universal serial bus) downstream connectors (page 8)
Use these connectors to link USB peripheral devices to the monitor.

8 USB (universal serial bus) upstream connector (page 8)
Use this connector to link the monitor to a USB compliant computer.

9 Video input 1 connector (HD15) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.



Pin No.	Signal
1	Red
2	Green (Composite Sync on Green)
3	Blue
4	ID (Ground)
5	DDC Ground*
6	Red Ground
7	Green Ground

Pin No.	Signal
8	Blue Ground
9	DDC + 5V*
10	Ground
11	ID (Ground)
12	Bi-Directional Data (SDA)*
13	H. Sync
14	V. Sync
15	Data Clock (SCL)*

* DDC (Display Data Channel) is a standard of VESA.

10 Video input 2 connector (BNC) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.

Setup

Before using your monitor, check that the following accessories are included in your carton:

- Power cord (1)
- Video signal cable (1)
- USB cable (1)
- Exclusive Power Mac G3/G4 adapter (1)
- Warranty card (1)
- Notes on cleaning the screen's surface (1)
- This instruction manual (1)

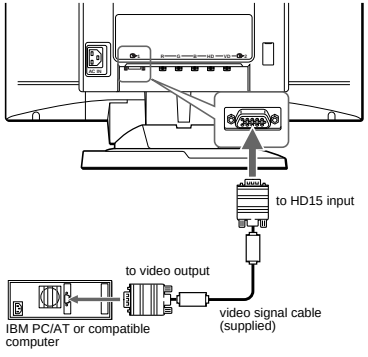
Step 1: Connect your monitor to your computer

Turn off the monitor and computer before connecting.

Notes

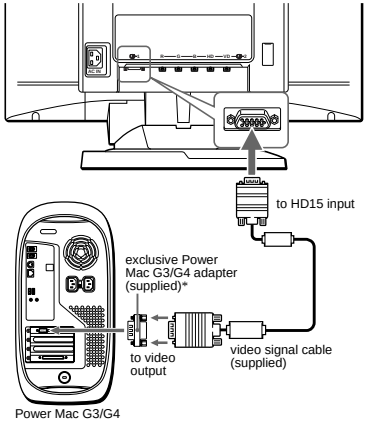
- Do not touch the pins of the video signal cable connector as this might bend the pins.
- When connecting the video signal cable, check the alignment of the connector. Do not force the connector in the wrong way or the pins might bend.

■ Connecting to an IBM PC/AT or compatible computer



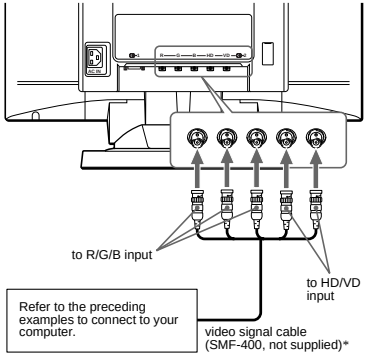
■ Connecting to a Macintosh computer

Use the supplied exclusive Power Mac G3/G4 adapter.



* Connect the supplied adapter to the computer before connecting the cable. This adapter is compatible only with Power Mac G3/G4 computers that have 3 rows of pins. If you connect to the other version of Macintosh series computer that has 2 rows of pins, you will need a different adapter (not supplied).

■ Connecting to the five BNC connectors


to R/G/B input
to HD/VD input
Refer to the preceding examples to connect to your computer.
video signal cable (SMF-400, not supplied)*

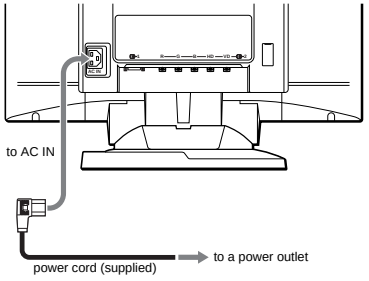
* Connect the cables from left to right in the following order: Red-Green-Blue-HD-VD.

Note

Plug & Play (DDC) does not apply to the five BNC connectors. If you want to use Plug & Play, connect your computer to the connector using the supplied video signal cable.

Step 2: Connect the power cord

With the monitor and computer switched off, first connect the power cord to the monitor, then connect it to a power outlet.



Step 3: Turn on the monitor and computer

First turn on the monitor, then turn on the computer.

The installation of your monitor is complete.
If necessary, use the monitor's controls to adjust the picture.

If no picture appears on your screen

- Check that the monitor is correctly connected to the computer.
- If NO INPUT SIGNAL appears on the screen, try changing the input signal (page 9), and confirm that your computer's graphic board is completely seated in the correct bus slot.
- If you are replacing an old monitor with this model and OUT OF SCAN RANGE appears on the screen, reconnect the old monitor. Then adjust the computer's graphic board so that the horizontal frequency is between 30 – 121 kHz, and the vertical frequency is between 48 – 160 Hz.

For more information about the on-screen messages, see "Trouble symptoms and remedies" on page 18.

Setup on various OS (Operating System)

This monitor complies with the "DDC" Plug & Play standard and automatically detects all the monitor's information. No specific driver needs to be installed to the computer.
If you connect the monitor to your PC, and then boot your PC for the first time, the setup Wizard may be displayed on the screen. Click on "Next" several times according to the instructions from the Wizard until the Plug & Play Monitor is automatically selected so that you can use this monitor. If your PC/graphic board has difficulty communicating with this monitor, download the specific driver by accessing the web site of the OS's manufacturer.

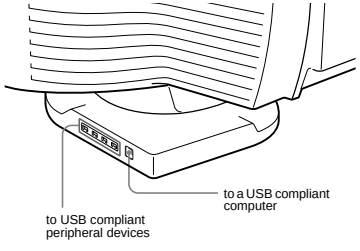
For customers using Windows NT4.0

Monitor setup in Windows NT4.0 does not use the display driver. Refer to the Windows NT4.0 instruction manual for further details on adjusting the resolution, refresh rate, and number of colors.

GB

Connecting Universal Serial Bus (USB) compliant peripherals

Your monitor has one upstream and four downstream USB connectors. They provide a fast and easy way to connect USB compliant peripheral devices (such as keyboards, mice, printers and scanners) to your computer using a standardized USB cable. To use your monitor as a hub for your peripheral devices, connect the USBs as illustrated below.



1 Turn on the monitor and computer.

2 Connect your computer to the square upstream connector using the supplied USB cable.

For customers using Windows
If a message appears on your screen, follow the on-screen instructions and select Generic USB Hub as the default setting.

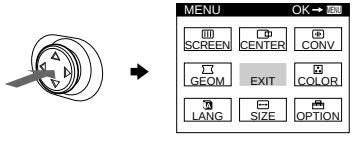
3 Connect your USB compliant peripheral devices to the rectangular downstream USB connectors.

Notes
- Not all computers and /or operating systems support USB configurations. Check your computer's instruction manual to see if you can connect USB devices.
- In most cases, USB driver software needs to be installed on the host computer. Refer to the peripheral device's instruction manual for further details.
- The monitor functions as a USB hub as long as the monitor is either "on" or in power saving mode.
- If you connect a keyboard or mouse to the USB connectors and then boot your computer for the first time, the peripheral devices may not function. First connect the keyboard and mouse directly to the computer and set up the USB compliant devices. Then connect them to this monitor.

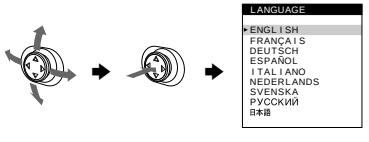
Selecting the on-screen menu language (LANG)

English, French, German, Spanish, Italian, Dutch, Swedish, Russian and Japanese versions of the on-screen menus are available. The default setting is English.

1 Press the joystick.
See page 11 for more information on using the joystick.



2 Move the joystick to highlight LANG and press the joystick again.



3 Move the joystick up or down to select a language and press the joystick again.
- ENGLISH
- FRANÇAIS: French
- DEUTSCH: German
- ESPAÑOL: Spanish
- ITALIANO: Italian
- NEDERLANDS: Dutch
- SVENSKA: Swedish
- РУССКИЙ: Russian
- 日本語: Japanese

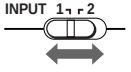
To close the menu
Press the joystick once to return to the main menu, and twice to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 30 seconds.

To reset to English
Press the RESET button while the LANGUAGE menu is displayed on the screen.

Selecting the input signal

You can connect two computers to this monitor using the video input 1 (HD15) and video input 2 (BNC) connectors. To switch between the two computers, use the INPUT switch.

Move the INPUT switch.
The currently selected connector ("INPUT 1" : HD15 or "INPUT 2" : BNC) appears on the screen for a few seconds.

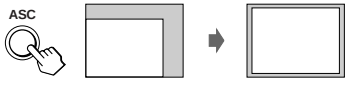


Note
If no signal is input to the selected connector, NO INPUT SIGNAL appears on the screen. After a few seconds, the monitor enters the power saving mode. If this happens, switch to the other connector.

Automatically sizing and centering the picture (AUTO)

You can easily adjust the picture to fill the screen by pressing the ASC (auto sizing and centering) button.

Press the ASC button.
The picture automatically fills the screen.



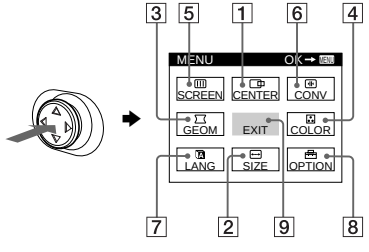
Notes
- This function is intended for use with a computer running Windows or similar graphic user interface software that provides a full-screen picture. It may not work properly if the background color is dark or if the input picture does not fill the screen to the edges (such as an MS-DOS prompt).
- The picture will fill the screen to the edges only if the aspect ratio of the picture is 16:10. Pictures with an aspect ratio other than 16:10 are displayed at their actual resolution and do not fill the screen to the edges.
- The displayed image moves for a few seconds while this function is performed. This is not a malfunction.

Customizing Your Monitor

You can make numerous adjustments to your monitor using the on-screen menu.

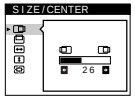
Navigating the menu

Press the joystick to display the main MENU on your screen. See page 11 for more information on using the joystick.

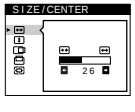


Use the joystick to select one of the following menus.

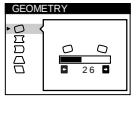
1 CENTER (page 12)
Select the CENTER menu to adjust the picture's centering or zoom.



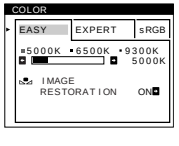
2 SIZE (page 12)
Select the SIZE menu to adjust the picture's size or zoom.



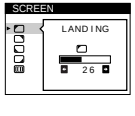
3 GEOM (page 12)
Select the GEOM menu to adjust the picture's rotation and shape.



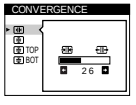
4 COLOR (page 12)
Select the COLOR menu to adjust the picture's color temperature. You can use this to match the monitor's colors to a printed picture's colors.



5 SCREEN (page 14)
Select the SCREEN menu to adjust the picture's quality. You can adjust the landing and moire cancellation effect.

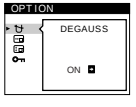


6 CONV (page 15)
Select the CONV menu to adjust the picture's horizontal and vertical convergence.



7 LANG (page 8)
Select the LANG menu to choose the on-screen menu's language.

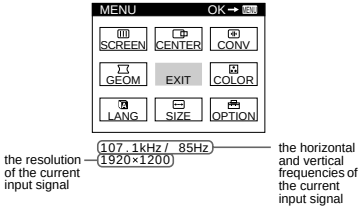
8 OPTION (page 15)
Select the OPTION menu to adjust the monitor's options. The options include:
- degaussing the screen
- changing the on-screen menu position
- locking the controls



9 EXIT
Select EXIT to close the menu.

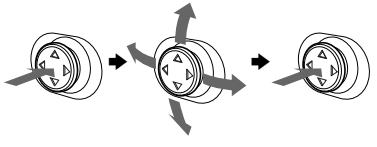
■ Displaying the current input signal

The horizontal and vertical frequencies of the current input signal are displayed under the main MENU. If the signal matches one of this monitor's factory preset modes, the resolution is also displayed.

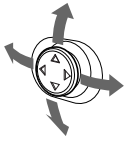


■ Using the joystick

1 Display the main MENU and select the menu you want to adjust.
Press the joystick once to display the main MENU. Then move the joystick up, down, left, or right to highlight the desired menu. Press the joystick to select the menu item.



2 Adjust the menu.
Move the joystick up, down, left, or right to make the adjustment.



3 Close the menu.
Press the joystick once to return to the main menu, and twice to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 30 seconds.

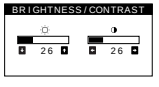
■ Resetting the adjustments

Press the RESET button. See page 16 for more information on resetting the adjustments.

Adjusting the brightness and contrast

Brightness and contrast adjustments are made using a separate BRIGHTNESS/CONTRAST menu.
These settings are stored in memory for the signals from the currently selected input connector.

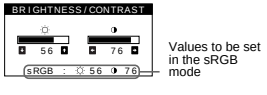
1 Move the joystick in any direction.
The BRIGHTNESS/CONTRAST menu appears on the screen.



2 Move the joystick up or down to adjust the brightness (☼), and left or right to adjust the contrast (◑).

If you select the sRGB mode in the COLOR menu

Confirm that the brightness (☼) and contrast (◑) values are adjusted respectively to the numbers to be set in the sRGB mode shown in the BRIGHTNESS/CONTRAST menu. If not, press the RESET button (for less than 2 seconds).



For more information about using the sRGB mode, see "Adjusting the color of the picture (COLOR)" on page 12.

The menu automatically disappears after about 3 seconds.

GB

Adjusting the centering of the picture (CENTER)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight CENTER and press the joystick again.
The SIZE/CENTER menu appears on the screen.

3 First move the joystick up or down to select for horizontal adjustment, or for vertical adjustment. Then move the joystick left or right to adjust the centering.

Adjusting the size of the picture (SIZE)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight SIZE and press the joystick again.
The SIZE/CENTER menu appears on the screen.

3 First move the joystick up or down to select for horizontal adjustment, or for vertical adjustment. Then move the joystick left or right to adjust the size.

Enlarging or reducing the picture (ZOOM)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight SIZE or CENTER and press the joystick again.
The SIZE/CENTER menu appears on the screen.

3 Move the joystick up or down to select (zoom), and move the joystick left or right to enlarge or reduce the picture.

Note
Adjustment stops when either the horizontal or vertical size reaches its maximum or minimum value.

Adjusting the shape of the picture (GEOM)

The (rotation) setting is stored in memory for all input signals. All other settings are stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight GEOM and press the joystick again.
The GEOMETRY menu appears on the screen.

3 First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.

Select	To
	rotate the picture
	expand or contract the picture sides
	shift the picture sides to the left or right
	adjust the picture width at the top of the screen
	shift the picture to the left or right at the top of the screen

Adjusting the color of the picture (COLOR)

The COLOR settings allow you to adjust the picture's color temperature by changing the color level of the white color field. Colors appear reddish if the temperature is low, and bluish if the temperature is high. This adjustment is useful for matching the monitor's color to a printed picture's colors.

1 Press the joystick.
The main MENU appears on the screen.

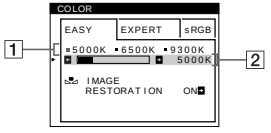
2 Move the joystick to highlight COLOR and press the joystick again.
The COLOR menu appears on the screen.

3 Move the joystick left or right to select the adjustment mode.
There are three types of adjustment modes, EASY, EXPERT, and sRGB.

Adjust the selected mode according to the instructions on the next page.
You can set the color temperature in EASY or EXPERT mode for each of the video input connectors.

■ EASY mode

In EASY mode, you can fine tune the color temperature by changing the three preset temperatures — 5000K, 6500K, or 9300K.

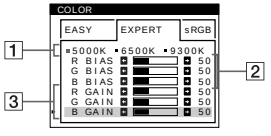


1 Move the joystick up or down to select the color temperature row 1. Then move the joystick left or right to select a color temperature.
The preset color temperatures are 5000K, 6500K, and 9300K. The default setting is 9300K. The whites will change from a bluish hue to a reddish hue as the temperature is lowered to 6500K and 5000K.

2 If necessary, fine tune the color temperature. Move the joystick up or down to select the color temperature row 2. Then move the joystick left or right to fine tune the color temperature.
If you fine tune the color temperature, the new color settings are stored in memory for each of the three color temperatures and item 1 of the on-screen menu changes as follows.
- [5000K]→[1]
- [6500K]→[2]
- [9300K]→[3]

■ EXPERT mode

You can make additional adjustments to the color in greater detail by selecting the EXPERT mode.



1 Move the joystick up or down to select the color temperature row 1. Then move the joystick left or right to select a color temperature.

2 Move the joystick up or down to select the adjustment item 2. Then move joystick left or right to adjust the BIAS (black level).
This adjusts the dark areas of an image.

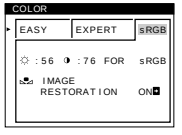
3 Move the joystick up or down to select the adjustment item 3. Then move the joystick left or right to adjust the GAIN (white level).
This adjusts the light areas of an image.

You can adjust the R (red), G (green), B (blue) component of the input signal when making changes to items 2 and 3.

If you fine tune the color temperature, the new color settings are stored in memory for each of the three color temperatures and item 1 of the on-screen menu change as follows.
- [5000K]→[1]
- [6500K]→[2]
- [9300K]→[3]

■ sRGB mode

The sRGB color setting is an industry standard color space protocol designed to correlate the displayed and printed colors of sRGB compliant computer products. To adjust the colors to the sRGB profile, simply select the sRGB mode in the COLOR menu. Once you select the sRGB mode, the brightness ( ) and contrast ( ) values are automatically set to the values to be set in the sRGB mode.



In order to display the sRGB colors correctly (γ = 2.2, 6500K), confirm that:
- the brightness ( ) and contrast ( ) values are adjusted respectively to the numbers shown in the BRIGHTNESS/CONTRAST menu. If not, press the RESET button (for less than 2 seconds). For information on how to change the brightness and contrast, see "Adjusting the brightness and contrast" on page 11.
- the color settings of your computer are set to the sRGB profile.

Note
Your computer and other connected products (such as a printer), must be sRGB compliant.

GB

(continued)

Restoring the color from the EASY or sRGB menus (IMAGE RESTORATION function)

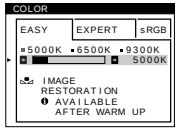
The colors of most display monitors tend to gradually lose brilliance over several years of service. The IMAGE RESTORATION feature found in the EASY and sRGB menus allows you to restore the color to the original factory quality levels.

1 Move the joystick left or right to select EASY or sRGB mode.

2 First move the joystick up or down to select (IMAGE RESTORATION). Then move the joystick to the right.
The picture disappears while the color is being restored (about 2 seconds). After the color is restored, the picture reappears on the screen again.

Notes

- Before using this feature, the monitor must be in normal operation mode (green power indicator on) for at least 30 minutes. If the monitor goes into power saving mode, you must return the monitor to normal operation mode and wait for 30 minutes for the monitor to be ready. You may need to adjust your computer's power saving settings to keep the monitor in normal operation mode for the full 30 minutes. If the monitor is not ready, the following message will appear.



- The monitor may gradually lose its ability to perform this function due to the natural aging of the picture tube.

Adjusting the quality of the picture (SCREEN)

The SCREEN settings allow you to adjust the quality of the picture by controlling the moire and landing.

- If the color is irregular at the corners of the screen, adjust the landing.
- If elliptical or wavy patterns appear on the screen, cancel the moire.

The CANCEL MOIRE and MOIRE ADJUST settings are stored in memory for the current input signal. All other settings are stored in memory for all input signals.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight SCREEN and press the joystick again.
The SCREEN menu appears on the screen.

3 First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.

Select	To
LANDING	reduce any color irregularities in the screen's top left corner to a minimum.
LANDING	reduce any color irregularities in the screen's top right corner to a minimum.
LANDING	reduce any color irregularities in the screen's bottom left corner to a minimum.
LANDING	reduce any color irregularities in the screen's bottom right corner to a minimum.
CANCEL MOIRE*	turn the moire cancellation function ON or OFF. (MOIRE ADJUST) appears in the menu when you select ON.
MOIRE ADJUST	adjust the degree of moire cancellation until the moire is at a minimum.

* Moire is a type of natural interference which produces soft, wavy lines on your screen. It may appear due to interference between the pattern of the picture on the screen and the phosphor pitch pattern of the monitor.

Example of moire

Note
The picture may become fuzzy when CANCEL MOIRE is set to ON.

Adjusting the convergence (CONV)

The CONV settings allow you to adjust the quality of the picture by controlling the convergence. The convergence refers to the alignment of the red, green, and blue color signals.
If you see red or blue shadows around letters or lines, adjust the convergence.
These settings are stored in memory for all input signals.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight CONV and press the joystick again.
The CONVERGENCE menu appears on the screen.

3 First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.

Select	To
	horizontally shift red or blue shadows
	vertically shift red or blue shadows
TOP V CONVER TOP	vertically shift red or blue shadows at the top of the screen
BOT V CONVER BOTTOM	vertically shift red or blue shadows at the bottom of the screen

Additional settings (OPTION)

You can manually degauss (demagnetize) the monitor, change the menu position, and lock the controls.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight OPTION and press the joystick again.
The OPTION menu appears on the screen.

3 Move the joystick up or down to select the desired adjustment item.
Adjust the selected item according to the following instructions.

■ Degaussing the screen

The monitor is automatically demagnetized (degaussed) when the power is turned on.
To manually degauss the monitor, first move the joystick up or down to select (DEGAUSS). Then move the joystick to the right.
The screen is degaussed for about 3 seconds. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

■ Changing the menu's position

Change the menu's position if it is blocking an image on the screen.
To change the menu's on-screen position, first move the joystick up or down to select (OSD H POSITION) for horizontal adjustment, or (OSD V POSITION) for vertical adjustment. Then move the joystick left or right to shift the on-screen menu.

■ Locking the controls

To protect adjustment data by locking the controls, first move the joystick up or down to select (CONTROL LOCK). Then move the joystick to the right, to select ON.
Only the ⏻ (power) switch, EXIT, and (CONTROL LOCK) of the OPTION menu will operate. If any other items are selected, the mark appears on the screen.

To cancel the control lock
Repeat the procedure above and set (CONTROL LOCK) to OFF.

GB

Resetting the adjustments

This monitor has the following three reset methods. Use the RESET button to reset the adjustments.

■ Resetting a single adjustment item

Use the joystick to select the adjustment item you want to reset, and press the RESET button.

■ Resetting all of the adjustment data for the current input signal

Press the RESET button when no menu is displayed on the screen. Note that the following items are not reset by this method:

- on-screen menu language (page 8)
- adjustment mode in the COLOR menu (EASY, EXPERT, sRGB) (page 12)
- on-screen menu position (page 15)
- control lock (page 15)

■ Resetting all of the adjustment data for all input signals

Press and hold the RESET button for more than 2 seconds.

Note

The RESET button does not function when (CONTROL LOCK) is set to ON.

Technical Features

Preset and user modes

When the monitor receives an input signal, it automatically matches the signal to one of the factory preset modes stored in the monitor's memory to provide a high quality picture at the center of the screen. (See Appendix for a list of the factory preset modes.) For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor ensures that a clear picture appears on the screen for any timing in the monitor's frequency range (horizontal: 30 – 121 kHz, vertical: 48 – 160 Hz). If the picture is adjusted, the adjustment data is stored as a user mode and automatically recalled whenever the same input signal is received.

Note for Windows users

For Windows users, check your graphic board manual or the utility program which comes with your graphic board and select the highest available refresh rate to maximize monitor performance.

Power saving function

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If the monitor is connected to a computer or video graphics board that is DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 170 W	green
1 standby	≤ 15 W	green and orange alternate
2 suspend (sleep)**	≤ 15 W	green and orange alternate
3 active off*** (deep sleep)**	≤ 1 W	orange
power off	0 W	off

* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.

** "Sleep" and "deep sleep" are power saving modes defined by the Environmental Protection Agency.

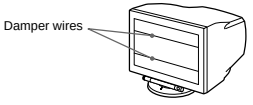
*** When your computer enters power saving mode, the input signal is cut and NO INPUT SIGNAL appears on the screen before the monitor enters active off mode. After a few seconds, the monitor enters power saving mode.

Troubleshooting

Before contacting technical support, refer to this section.

If thin lines appear on your screen (damper wires)

The visible lines on your screen especially when the background screen color is light (usually white), are normal for the Trinitron monitor. This is not a malfunction. These are shadows from the damper wires used to stabilize the aperture grille. The aperture grille is the essential element that makes a Trinitron picture tube unique by allowing more light to reach the screen, resulting in a brighter, more detailed picture.

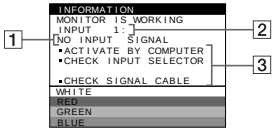


On-screen messages

If there is something wrong with the input signal, one of the following messages appears on the screen.

If NO INPUT SIGNAL appears on line 1

This indicates that no signal is input from the selected connector.



2 The selected connector

This message shows the currently selected connector (INPUT 1 or INPUT 2).

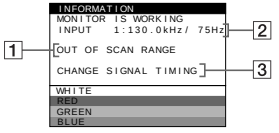
3 The remedies

One or more of the following messages may appear on the screen.

- If ACTIVATE BY COMPUTER appears on the screen, try pressing any key on the computer or moving the mouse, and confirm that your computer's graphic board is completely seated in the correct bus slot.
- If CHECK INPUT SELECTOR appears on the screen, try changing the input signal (page 9).
- If CHECK SIGNAL CABLE appears on the screen, check that the monitor is correctly connected to the computer (page 6).

If OUT OF SCAN RANGE appears on line 1

This indicates that the input signal is not supported by the monitor's specifications.



2 The selected connector and the frequencies of the current input signal

This message shows the currently selected connector (INPUT 1 or INPUT 2). If the monitor recognizes the frequencies of the current input signal, the horizontal and vertical frequencies are also displayed.

3 The remedies

CHANGE SIGNAL TIMING appears on the screen. If you are replacing an old monitor with this monitor, reconnect the old monitor. Then adjust the computer's graphic board so that the horizontal frequency is between 30 - 121 kHz, and the vertical frequency is between 48 - 160 Hz.

For more information, see "Trouble symptoms and remedies" on page 18.

GB

Displaying this monitor's name, serial number, and date of manufacture.

While the monitor is receiving a video signal, press and hold the joystick for more than 5 seconds to display this monitor's information box.

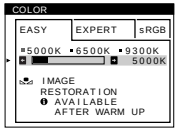
If the problem persists, call your authorized Sony dealer and give the following information.

- Model name: GDM-FW900
- Serial number
- Name and specifications of your computer and graphic board.

Trouble symptoms and remedies

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual. Use the self-diagnosis function (page 20) if the following recommendations do not resolve the problem.

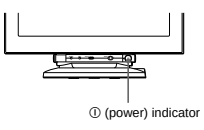
Symptom	Check these items
No picture	
If the ⏻ (power) indicator is not lit	• Check that the power cord is properly connected. • Check that the ⏻ (power) switch is in the "on" position.
If the NO INPUT SIGNAL message appears on the screen, or if the ⏻ (power) indicator is either orange or alternating between green and orange	• Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets (page 6). • Check that the INPUT switch setting is correct (page 9). • Check that the video input connector's pins are not bent or pushed in. **■Problems caused by the connected computer or other equipment** • The computer is in power saving mode. Try pressing any key on the keyboard or moving the mouse. • Check that the computer's power is "on." • Check that the graphic board is completely seated in the proper bus slot.
If the OUT OF SCAN RANGE message appears on the screen	**■Problems caused by the connected computer or other equipment** • Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following. Horizontal: 30 – 121 kHz Vertical: 48 – 160 Hz
If no message is displayed and the ⏻ (power) indicator is green or flashing orange	• Use the Self-diagnosis function (page 20).
If using Windows 95/98	• If your PC/graphic board has difficulty communicating with this monitor, download the specific driver by accessing the web site of Microsoft Corporation.
If using a Macintosh system	• When connecting to a Power Mac G3/G4 that has 3 rows of pins, check that the supplied exclusive Power Mac G3/G4 adapter and the video signal cable are properly connected (page 6). • If you connect to the other version of Macintosh series computer that has 2 rows of pins, you will need a different adapter (not supplied).
Picture flickers, bounces, oscillates, or is scrambled	• Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, fluorescent lighting, televisions, or electric fans. • Move the monitor away from power lines or place a magnetic shield near the monitor. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try turning the monitor 90° to the left or right. **■Problems caused by the connected computer or other equipment** • Check your graphic board manual for the proper monitor setting. • Confirm that the graphics mode (VESA, Macintosh 21" Color, etc.) and the frequency of the input signal are supported by this monitor (Appendix). Even if the frequency is within the proper range, some graphic boards may have a sync pulse that is too narrow for the monitor to sync correctly. • Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.
Picture is fuzzy	• Adjust the brightness and contrast (page 11). • Degauss the monitor* (page 15). • If CANCEL MOIRE is ON, the picture may become fuzzy. Decrease the moire cancellation effect or set CANCEL MOIRE to OFF (page 14).

Symptom	Check these items
Picture is ghosting	• Eliminate the use of video cable extensions and/or video switch boxes. • Check that all plugs are firmly seated in their sockets.
Picture is not centered or sized properly	• Press the ASC button (page 9). • Adjust the size or centering (page 12). Note that some video modes do not fill the screen to the edges.
Edges of the image are curved	• Adjust the geometry (page 12).
Wavy or elliptical pattern (moire) is visible	• Set CANCEL MOIRE to ON and adjust the degree of moire cancellation until the moire is at a minimum (page 14). **■Problems caused by the connected computer or other equipment** • Change your desktop pattern.
Color is not uniform	• Degauss the monitor* (page 15). If you place equipment that generates a magnetic field, such as a speaker, near the monitor, or if you change the direction the monitor faces, color may lose uniformity. • Adjust the landing (page 14).
White does not look white	• Adjust the color temperature (page 12). • Check that the five BNC connectors are connected in the correct order (page 6).
Letters and lines show red or blue shadows at the edges	• Adjust the convergence (page 15).
Monitor buttons do not operate (🔑 appears on the screen)	• If the control lock is set to ON, set it to OFF (page 15).
IMAGE RESTORATION function does not operate 	• Before using this function, the monitor must be in normal operation mode (green power indicator on) for at least 30 minutes. For more information on using the IMAGE RESTORATION function, see page 14. • Adjust the computer's power saving settings to keep the monitor in normal operation mode for more than 30 minutes. • The monitor may gradually lose its ability to perform this function due to the natural aging of the picture tube.
USB peripherals do not function	• Check that the appropriate USB connectors are securely connected (page 8). • Check that the ⏻ (power) switch is in the "on" position. **■Problems caused by the connected computer or other equipment** • Check that the power of any self-powered USB compliant peripheral devices is "on." • Install the latest version of the device driver on your computer. Contact your device's manufacturer for information about the appropriate device driver. • If your USB compliant keyboard or mouse does not function, connect them directly to your computer, reboot your computer, and make any necessary adjustments to the USB settings. Then reconnect the keyboard or mouse to the monitor. If you connect a keyboard or mouse to the USB connectors and then boot your computer for the first time, the peripheral devices may not function. • For customers using Windows 95 1. Right-click on My Computer and select Properties. 2. Click on the Device Manager tab. Scroll down and select Universal Serial Bus Controller. If Universal Serial Bus Controller does not appear, you need to load a USB supplement disk. Contact your computer's manufacturer for more information about obtaining a USB supplement disk. 3. Select Generic USB Device from the USB controller list and click on Properties. 4. If there is a check in the box next to "Disable in this hardware profile," remove the check. 5. Click on Refresh.
A hum is heard right after the power is turned on	• This is the sound of the auto-degauss cycle. When the power is turned on, the monitor is automatically degaussed for 3 seconds.

* If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. A humming noise may be heard, but this is not a malfunction.

Self-diagnosis function

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard or moving the mouse.



■ If the ⏻ (power) indicator is green

1 Disconnect any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).

2 Press the ⏻ (power) button twice to turn the monitor off and then on.

3 Move the joystick to the right for 2 seconds before the monitor enters power saving mode.

If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

■ If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button twice to turn the monitor off and then on.
If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and graphic board.

Specifications

CRT	0.23 – 0.27 mm aperture grille pitch 24 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 482.1 × 308.2 mm (w/h) (19 × 12 1/4 inches) 19.8" viewing image
Resolution	Maximum (16:10) Horizontal: 2304 dots Vertical: 1440 lines Maximum (4:3) Horizontal: 2048 dots Vertical: 1536 lines Recommended (16:10) Horizontal: 1920 dots Vertical: 1200 lines
Input signal levels	Video signal Analog RGB: 0.700 Vp-p (positive), 75 Ω SYNC signal H/V separate or composite sync: TTL 2 kΩ, Polarity free Sync on Green: 0.3 Vp-p (negative)
Standard image area	16:10 Approx. 474 × 296 mm (w/h) (18 3/4 × 11 3/4 inches) 4:3 Approx. 395 × 296 mm (w/h) (15 5/8 × 11 3/4 inches) 5:4 Approx. 370 × 296 mm (w/h) (14 5/8 × 11 3/4 inches)
Deflection frequency*	Horizontal: 30 to 121 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50/60 Hz, 2.2 – 1.2 A
Power consumption	Approx. 170 W (with no USB devices connected)
Operating temperature	10˚C to 40˚C
Dimensions	Approx. 571.5 × 500 × 522.5 mm (w/h/d) (22 1/2 × 19 3/4 × 20 5/8 inches)
Mass	Approx. 42 kg (92 lb 10 oz)
Plug and Play	DDC1/DDC2B/DDC2Bi, GTF**
Supplied accessories	See page 6

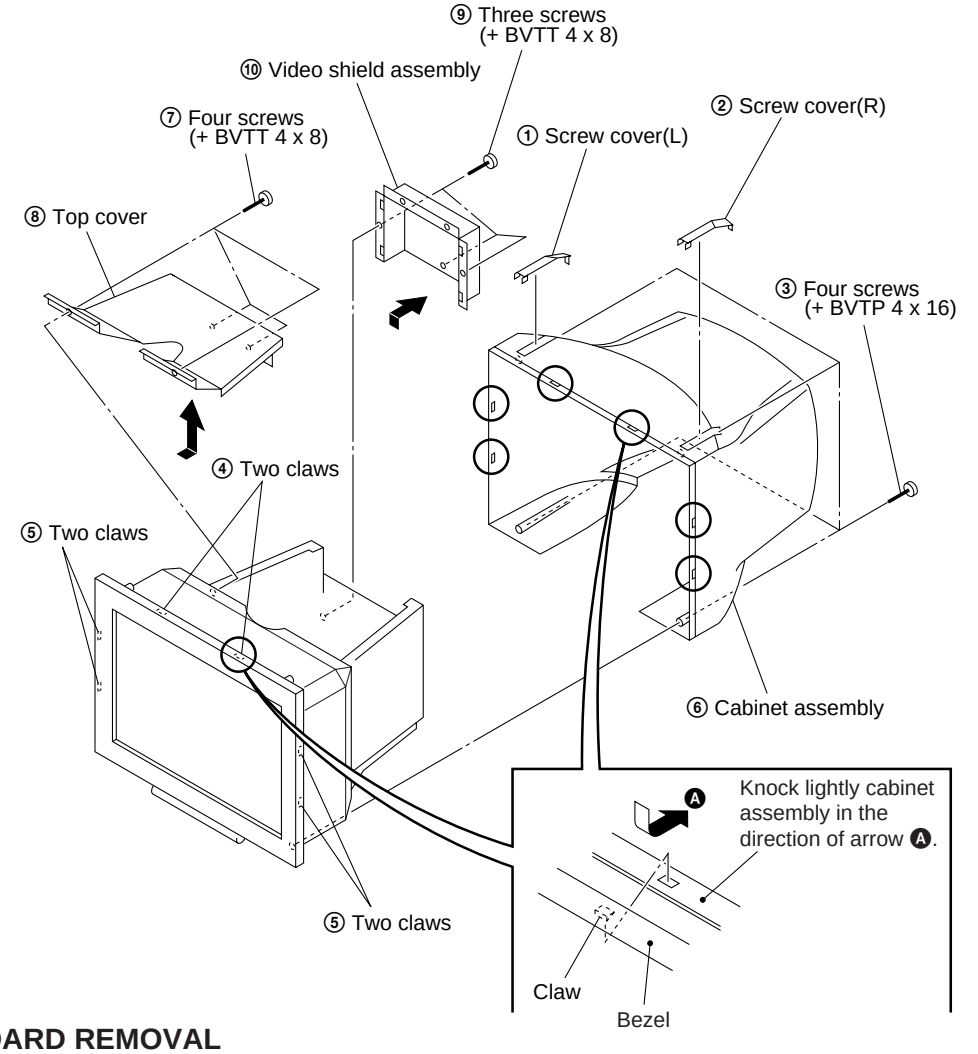
* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.3 µsec.
- Vertical blanking width should be more than 450 µsec.

** If the input signal is Generalized Timing Formula (GTF) compliant, the GTF feature of the monitor will automatically provide an optimal image for the screen.

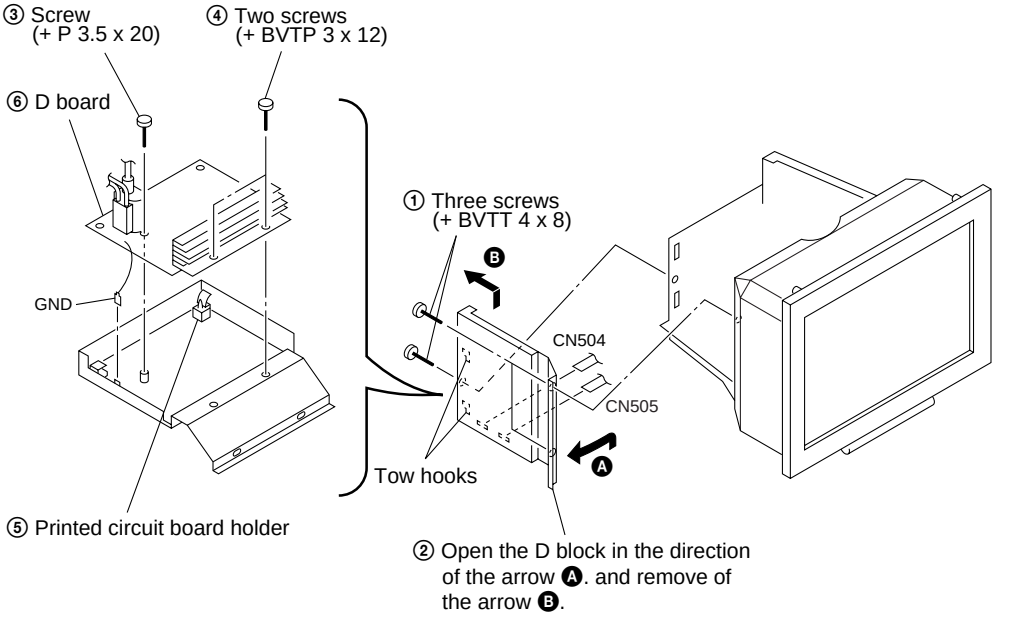
Design and specifications are subject to change without notice.

SECTION 2
DISASSEMBLY

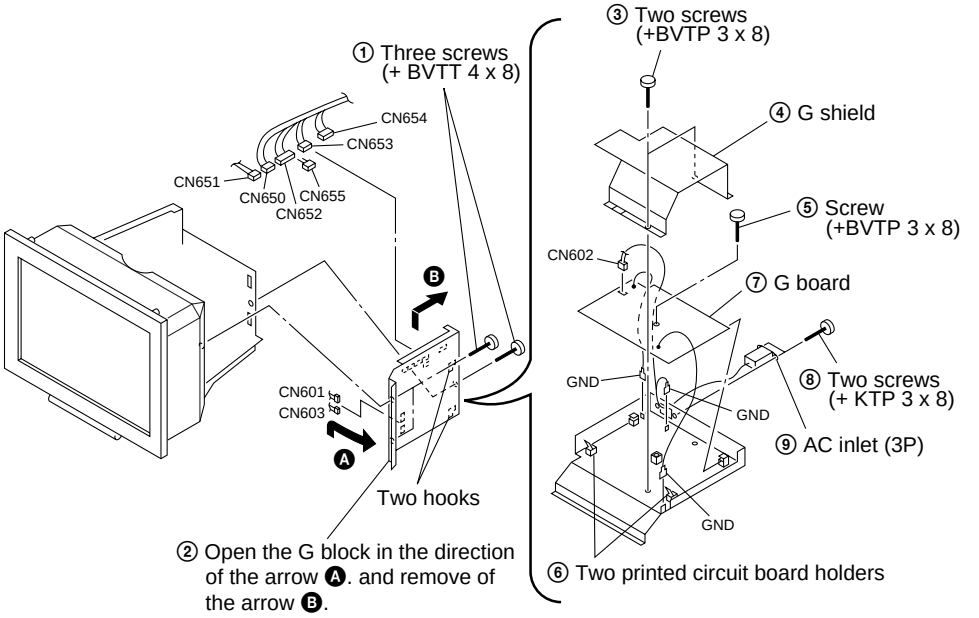
2-1. CABINET ASSY REMOVAL



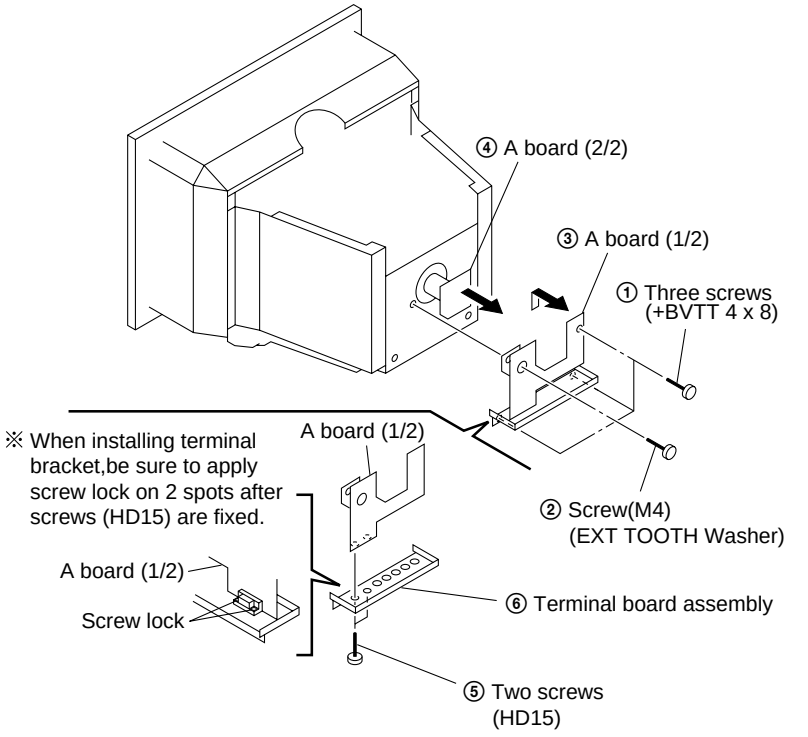
2-2. D BOARD REMOVAL



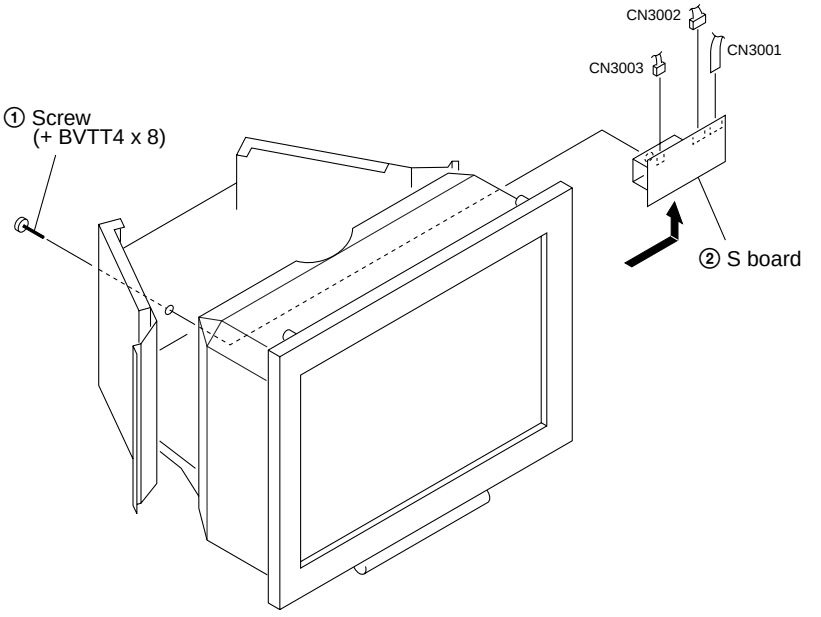
2-3. G BOARD REMOVAL



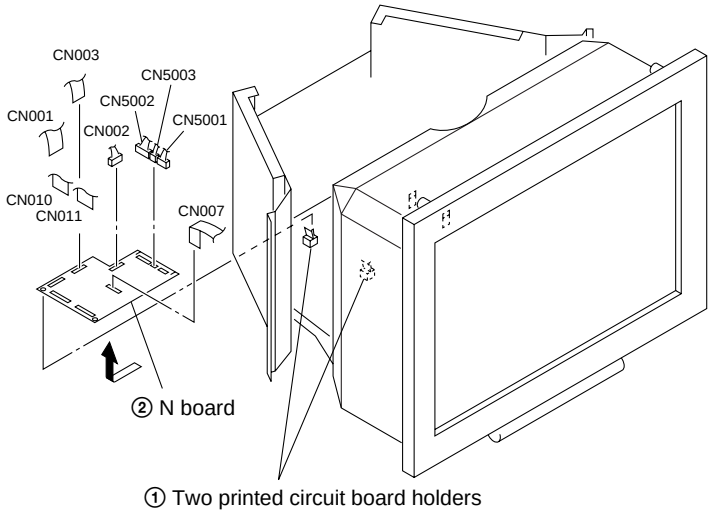
2-4. A BOARD AND I/O TERMINAL BOARD ASSY REMOVAL



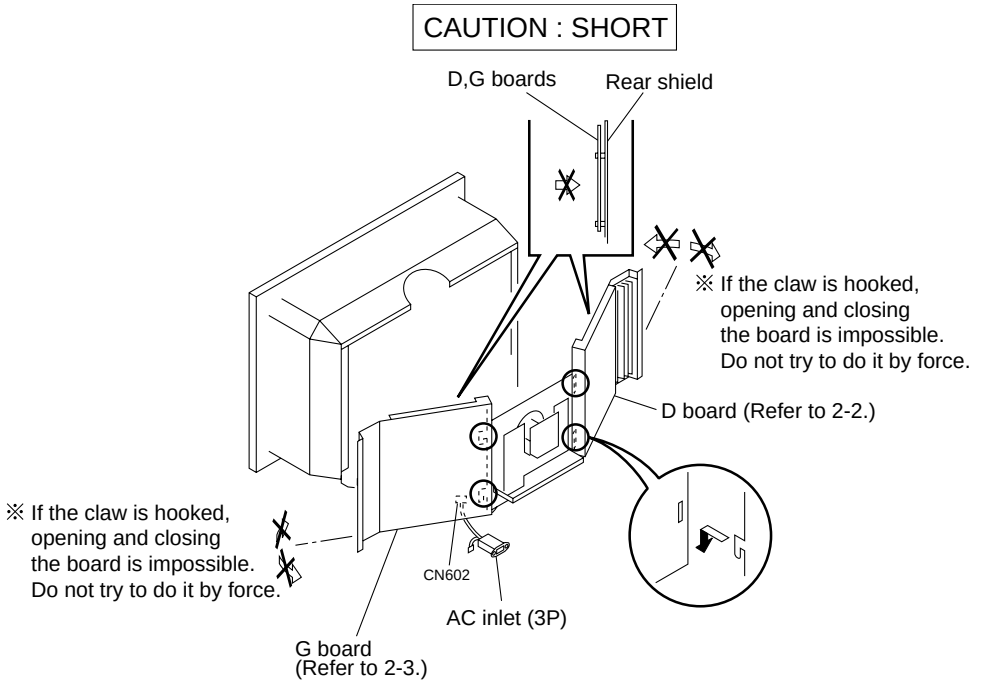
2-5. S BOARD REMOVAL



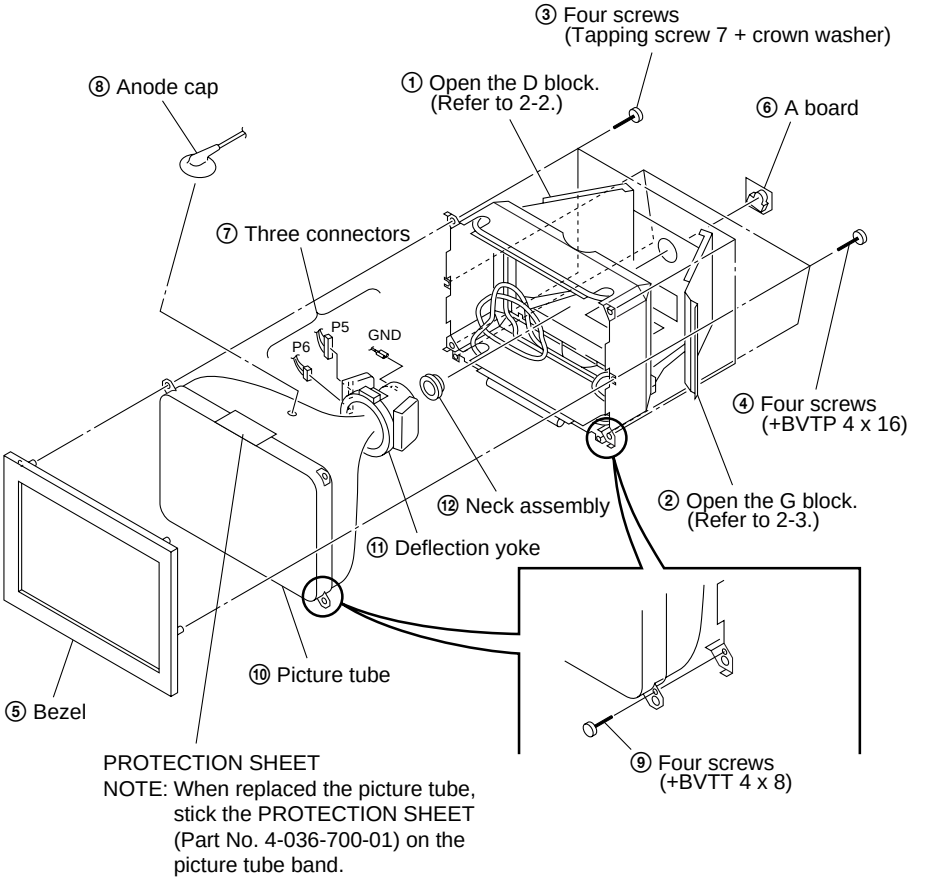
2-6. N BOARD REMOVAL



2-7. SERVICE POSITION

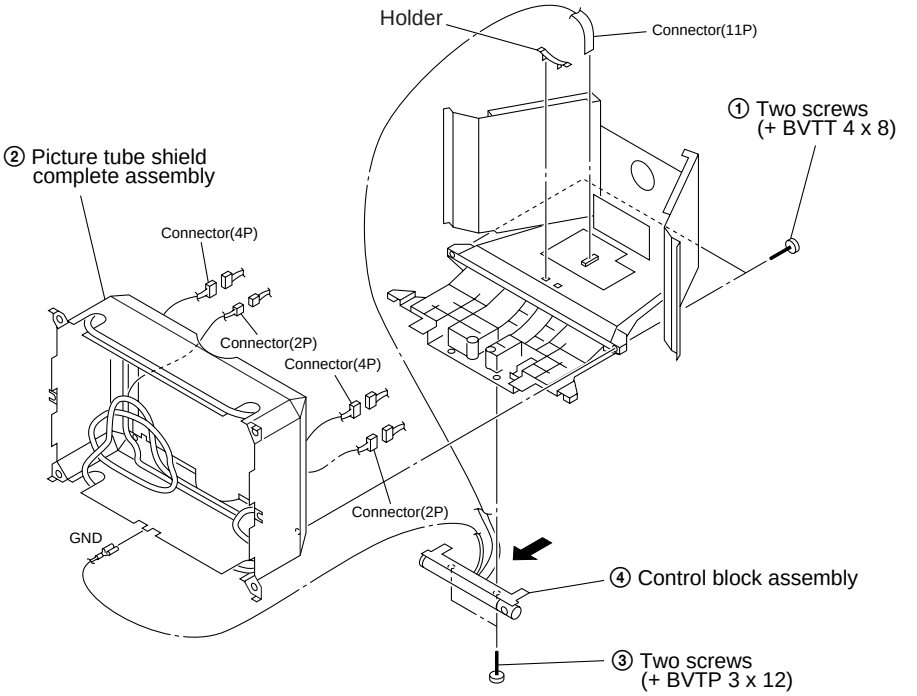

CAUTION : SHORT
D,G boards
Rear shield
※ If the claw is hooked, opening and closing the board is impossible. Do not try to do it by force.
D board (Refer to 2-2.)
※ If the claw is hooked, opening and closing the board is impossible. Do not try to do it by force.
CN602
AC inlet (3P)
G board (Refer to 2-3.)

2-8. PICTURE TUBE REMOVAL


③ Four screws (Tapping screw 7 + crown washer)
⑧ Anode cap
① Open the D block. (Refer to 2-2.)
⑥ A board
⑦ Three connectors
P5
GND
P6
④ Four screws (+BVTP 4 x 16)
⑫ Neck assembly
② Open the G block. (Refer to 2-3.)
⑪ Deflection yoke
⑩ Picture tube
⑤ Bezel
PROTECTION SHEET
NOTE: When replaced the picture tube, stick the PROTECTION SHEET (Part No. 4-036-700-01) on the picture tube band.
⑨ Four screws (+BVTT 4 x 8)

2-9. CONTROL BLOCK ASSY REMOVAL

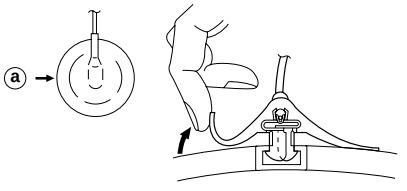
※ Remove the picture tube.(Refer to 2-8.)



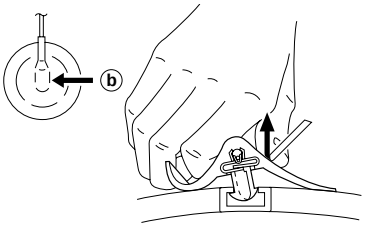
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

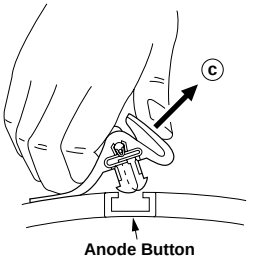
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



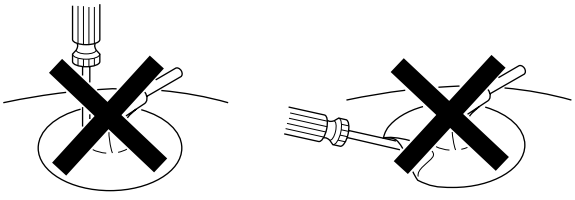
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.



③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

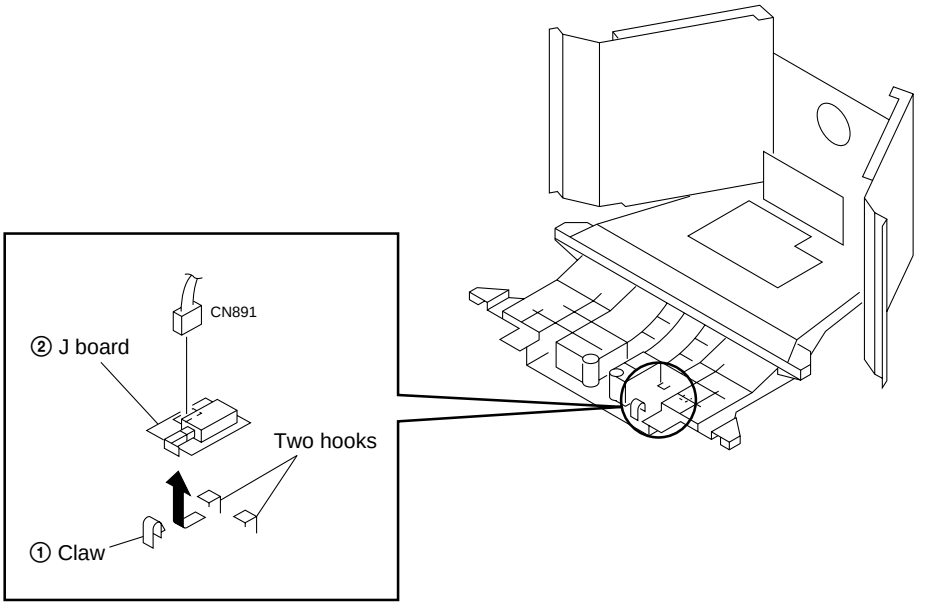
• HOW TO HANDLE AN ANODE-CAP

① Don't scratch the surface of anode-caps with sharp shaped material!
② Don't press the rubber hardly not to damage inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or damage the rubber.

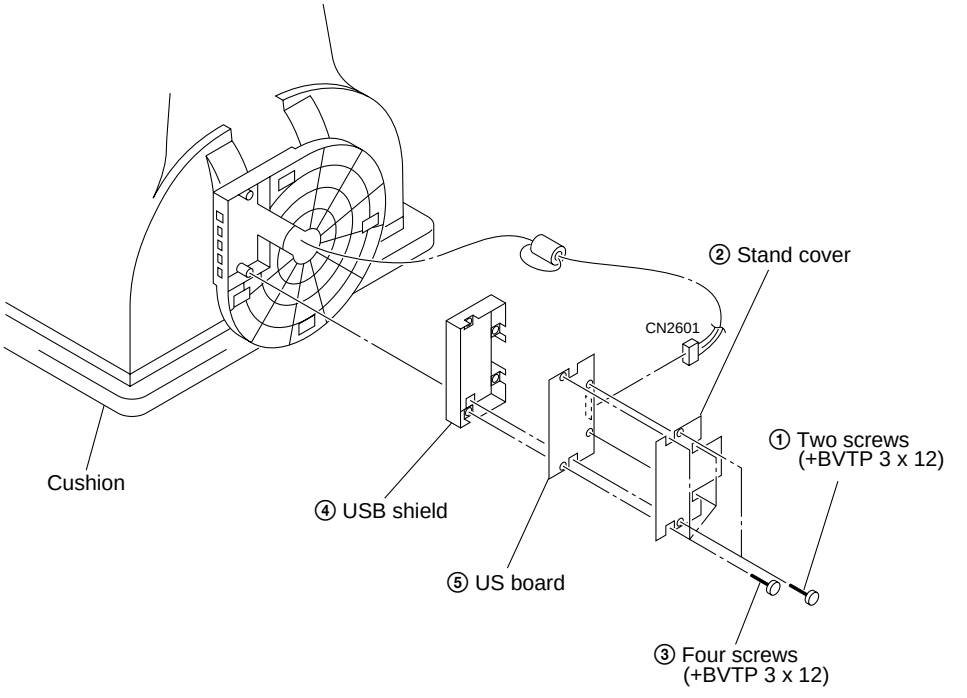


2-10. J BOARD REMOVAL

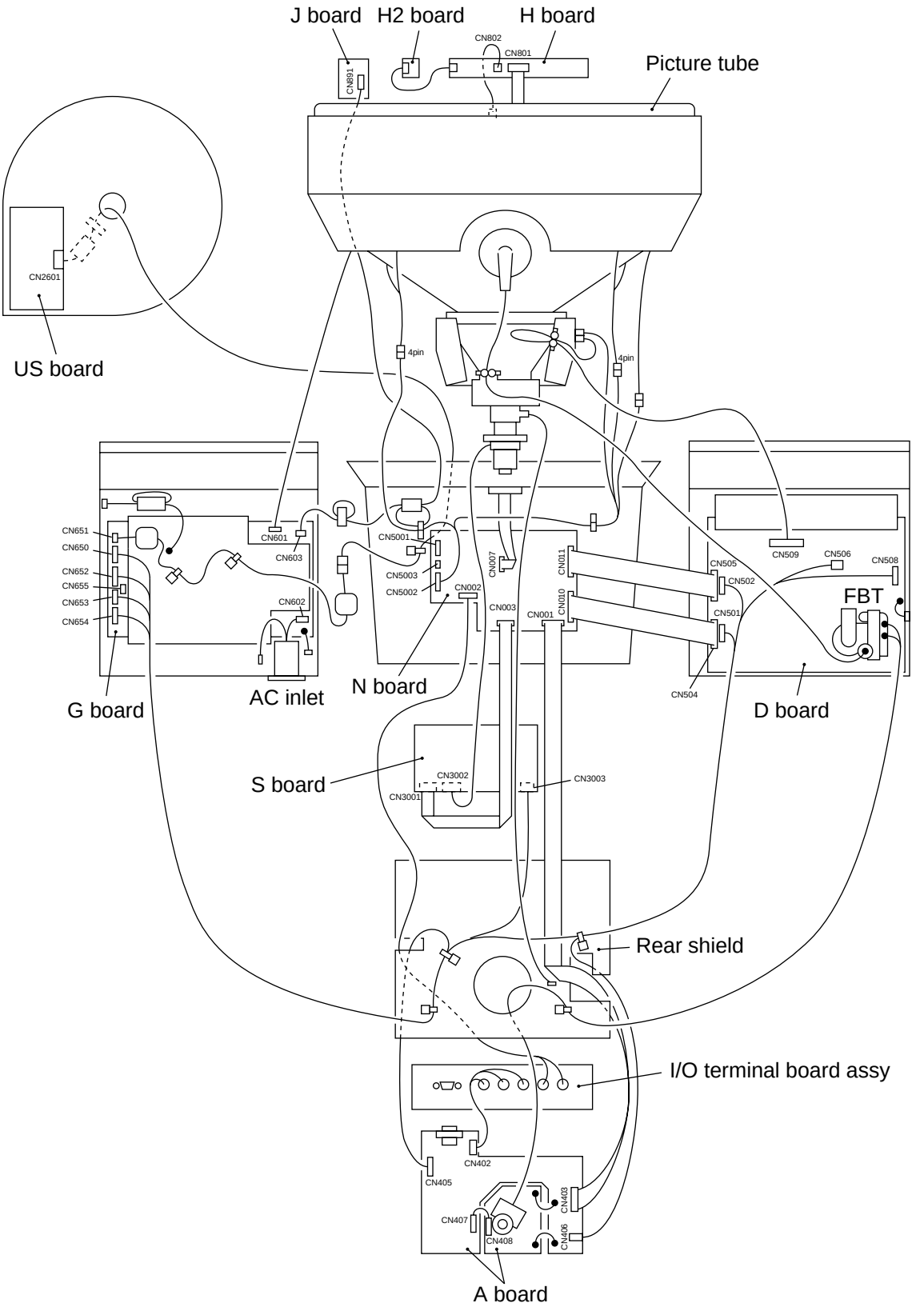
※ Remove the control block assembly.(Refer to 2-9.)



2-11. US BOARD REMOVAL



2-12. HARNESS LOCATION



SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (⊠)
HV ADJ	RV901

	Part Replaced (◪)	
HV Regulator Circuit Check	D Board	IC901, R923, R924, R929, R943, T902(FBT) • Mounted D Board
HV Protector Circuit Check	D Board	C922, C926, D912, D915, D921, Q907, Q908, R921, R922, R932, R937, R939, T902(FBT) • Mounted D Board
Beam Current Protector Circuit Check	D Board	C921, C933, D901, D913, R920, R928, R930, R931, T902(FBT) • Mounted D Board
	N Board	IC001, R031, R032 • Mounted N Board

* Confirm one minute after turning on the power.

a) HV Regulator Circuit Check

1) Enter black crosshatch signal (black on white background), and check that high voltage is in the specified range.
   [Specification]: 28.50 ± 0.10 kV
2) Check that the voltage of D912 cathode on the D board is 29.0 V or more.

b) HV Protector Circuit Check

1) Enter black crosshatch signal (black on white background).
2) Apply the specified voltage to the D912 cathode on the D board, and check that high voltage is 0.1 kV or less.
   [Specification]: 34.00 + 0.00/– 0.05 V

c) Beam Current Protector Circuit Check (1st Protector): D Board

1) Apply 4.5 V DC to CN504 ⑩ pin on the D board, and check high voltage value.
2) Connect constant current source to a section between T902 (FBT) ⑪ pin and ⑫ pin (GND) on the D board, and check that high voltage checked in 1) lowers by 1.50 kV or more when the specified current flows to the ⑪ pin.
   [Specification]: 2.00 + 0.00/– 0.01 mA

d) Beam Current Protector Circuit Check (2nd Protector): D Board

1) Connect constant current source to a section between T902 (FBT) ⑪ pin and ⑫ pin (GND) on the D board, and check that the voltage of CN504 ⑩ pin becomes 0 V or less when the specified current flows to the ⑪ pin.
   [Specification]: 1.63 + 0.00/– 0.01 mA

e) Beam Current Protector Circuit Check : G Board

1) Apply 264 V AC.
2) Enter about 5 V to CN650 ④ pin on the G board, and check that the output voltage of CN653 ② pin is about 15 V.
3) Enter about 0 ± 0.2 V to CN650 ④ pin, and check that the output voltage of CN653 ② pin becomes 1.0 V or less.

f) Beam Current Protector Circuit Check : N Board

1) Check that the protector operates, when the voltage of CN010 ⑯ pin on the N board is lowered to 0 V or less (for more than 2 seconds).

SECTION 4
ADJUSTMENTS

Note: Hand degauss must be used on stand-by or power-off condition.
This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.

• Landing Rough Adjustment

1. Enter the full white signal. (or the full black dots signal).
2. Adjust the contrast to the maximum.
3. Make the screen monogreen.

Note: Off the outputs from R ch and B ch of SG.

4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Adjust the tilt of DY, and fix lightly with a clamp.

Note: "TILT" = "128".

• Landing Fine Adjustment

1. Put the set inside the Helmholtz coil. ("LCC SW" = "12")
2. Input the single green signal and set the "CONTRAST" = "255".

Note: After the W/B adjustment with 9300K, measure an average of ΣIk when a full white signal is entered in the CONT MAX/BRT CENT status. Then make adjustment so that the specified screen can be attained after aging for 2 hours with Ik equivalent to 30% of the average value.

3. Demagnetize the metal part of the chassis with the hand degausser and coil degausser, and the CRT surface with the hand degausser.
   Input AC 230V to AC IN, turn on and off the power to perform auto degaussing. (Perform auto degaussing by setting "FUNCTION SW" = 1. Return to the original value after use.)
   Demagnetize the CRT surface with the hand degausser again.

Note:

(1) Hand degauss must be used on stand-by or power-off condition.
   This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.
(2) Adjust in a non-magnetic field.
(3) If adjusting in a magnetic fields, add the shift from the non-magnetic field in your estimation.

4. Attach the wobbling coil to the designated part of the CRT neck.
5. Attach the sensor of the landing adjustment unit on the CRT surface.
6. Adjust the DY position and purity, and the DY tilt, and landing of the center and 4 corners with the landing checker.
   After adjustment, set "LCC SW" to "13".
   - Write terrestrial magnetism sensor reading VX and VY to "LCC VX" and LCC VY" respectively. Adjust the landing by moving "LCC NS", "LCC LT", "LCC LB", "LCC RT" and "LCC RB". However, the register adjustment must be limited within the following range.
     "LCC NS" 128 ± 45
     "LCC LT", "LCC LB", "LCC RT", "LCC RB" 128 ± 40
     Save the service data.

<Specifications>

Adjust so that the green is within the specification given right.
4 corner adjust target : within ± 1

(µm)

0 ± 3	0 ± 7.5	0 ± 3
0 ± 3	0 ± 7.5	0 ± 3
0 ± 3	0 ± 7.5	0 ± 3

The red and blue must be within the specification given right with respect to the green.

(µm)

± 6	± 6	± 6
± 6	± 6	± 6
± 6	± 6	± 6

A difference between red and blue must be within the specification given right.

(µm)

10	10	10
10	7	10
10	10	10

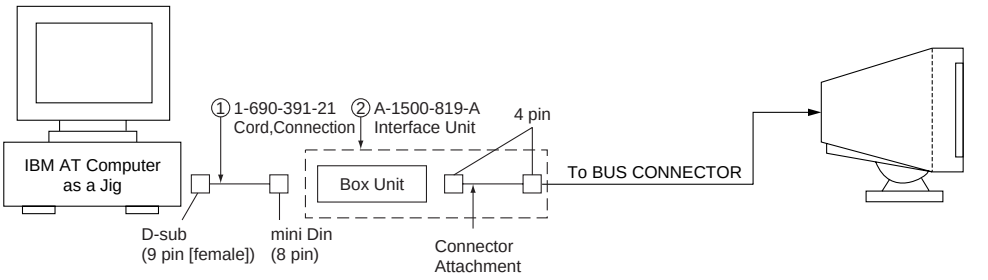
* Adjustment and measurement should be made at the points one inch inside the fluorescent screen.

7. Tighten DY screw.

Note: Torque 22 ± 2 kg.cm (2.2 ± 0.2 Nm) auto degauss it.

8. For the up/down swing, swing the DY and insert a wedge so that the up and down pins are equal at the top and bottom. Adjust the H.TRP VR of DY so that the horizontal trapezoid is equal at the left and right. Insert the wedge firmly so that the DY does not shake.
9. Check the landing of each corner, and if it does not satisfy the specification, adjust the landing of four corners using "LCC LT", "LCC LB", "LCC RT" and "LCC RB".
   However, the register adjustment must be limited within the following range.
   "LCC NS" 128 ± 15
   "LCC LT", "LCC LB", "LCC RT", "LCC RB" 128 ± 45
   After adjustment, save the service data.
10. Remove the sensor and wobbling coil.
11. Switch the signal to R.G.B., and check that each color is pure.
12. Check that the DY is not tilting, and fix the purity Mg with a white pen. Fix wedges with RTV.

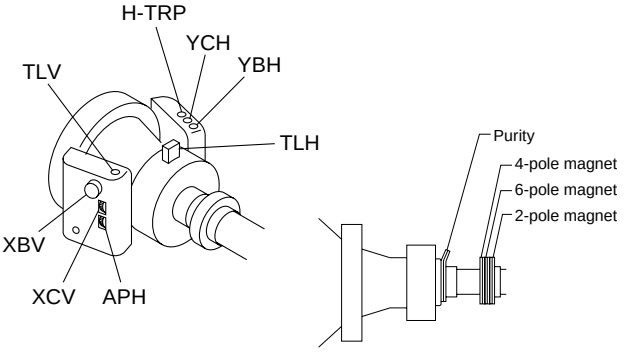
Connect the communication cable of the computer to the connector located on the D board. Run the service software and then follow the instruction.



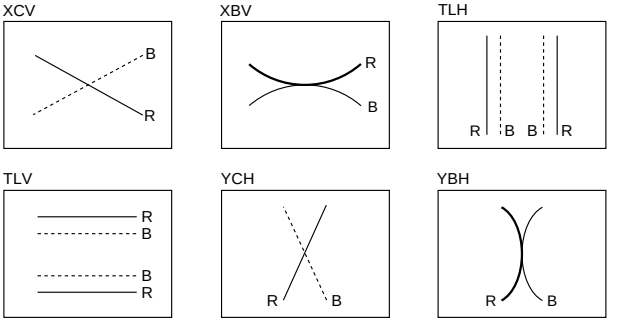
*The parts above (① and ②) are necessary for DAS adjustment.

- **Convergence Rough Adjustment**

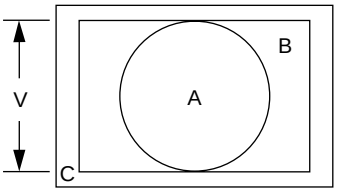
(1) Receive an image of the white crosshatch signals (white lines on black).
(2) Place the protrusions of the 6-fold poles magnet attached to the CRT neck upon each other.
(3) Make rough adjustment of the H and V direction convergence by using 4-fold poles magnet.



* Set so that the protruding parts of the 2 magnet rings agree with each other.



- **Convergence Specification**

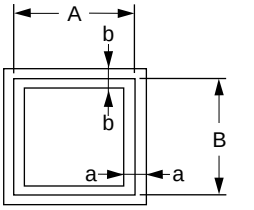


fH	70kHz ≦	70kHz >
A	0.24 mm	0.24 mm
B	0.24 mm	0.28 mm
C	0.28 mm	0.32 mm

- **White Balance Adjustment Specification**

1. 9300K
   x = 0.283 ± 0.015
   y = 0.298 ± 0.015
   (All White)
2. 6500K
   x = 0.313 ± 0.015
   y = 0.329 ± 0.015
   (All White)
3. 5000K
   x = 0.346 ± 0.015
   y = 0.359 ± 0.015
   (All White)

- **Vertical and Horizontal Position and Size Specification**

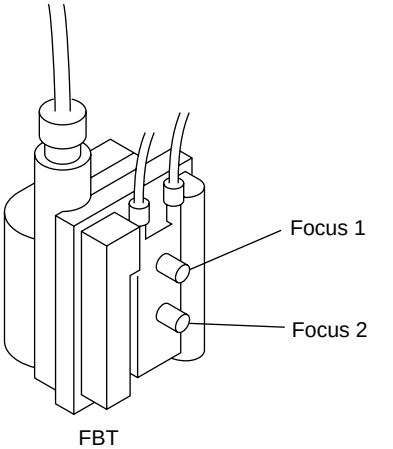


MODE	4 : 3	5 : 4
A	395	370
B	296	296

MODE	16 : 9	16 : 10
A	474	266
B	474	296

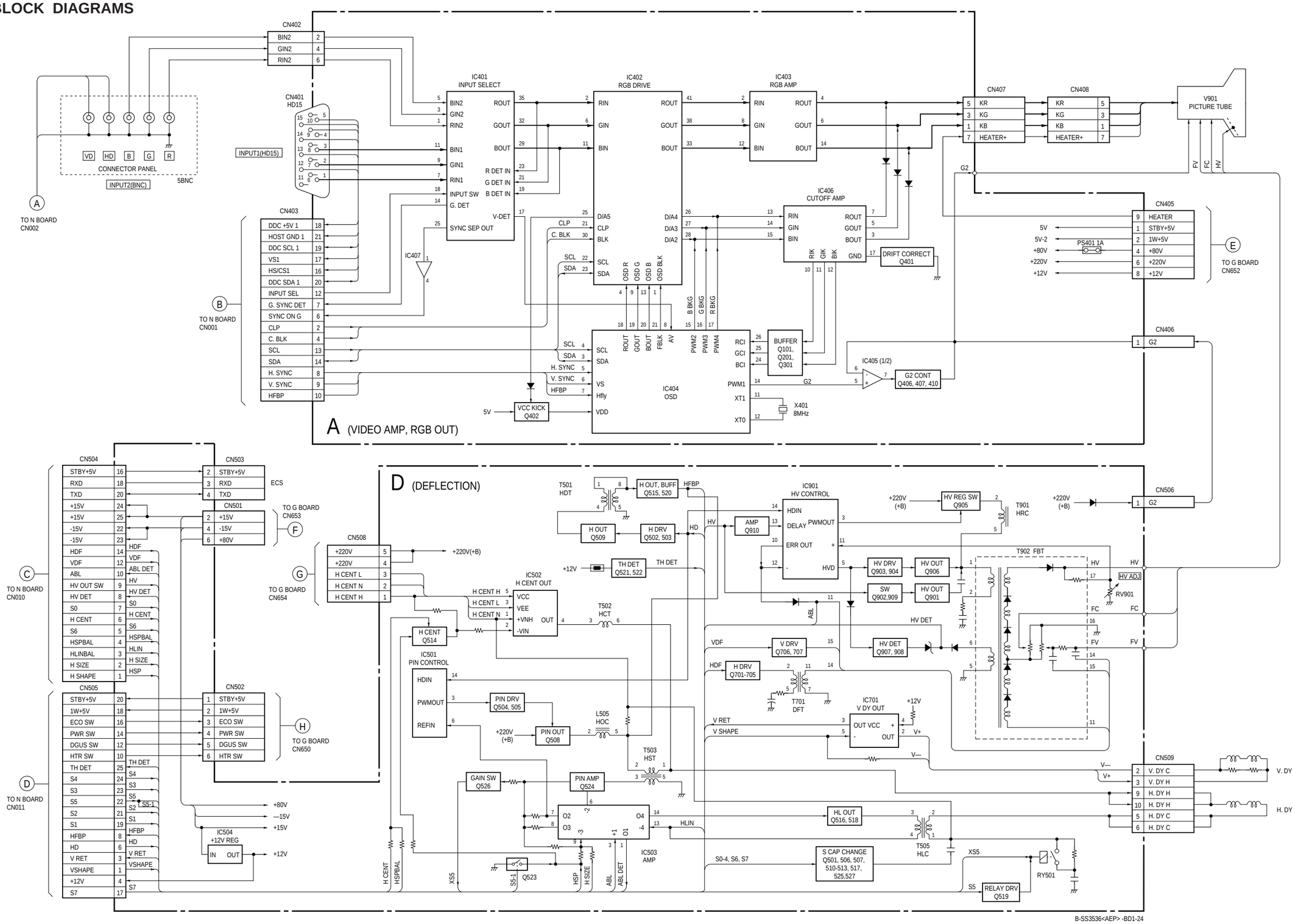
- **Focus adjustment**

Adjust the focus volume 1 and 2 for the optimum focus.



SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS



B-SS3536<AEP> -BD1-24

N (μ-COM, V.CONV, H. CONV, LCC, GEO MAGNETIC SENSOR)

IC001 CPU/DSP

CN002: HS/CS 2 (2), VS 2 (1), HOST GND 2 (4) — TO CONNECTOR PANEL (A)

CN001: DDC+5V 1 (4), DDC SCL 1 (3), DDC SDA 1 (2), HS/CS 1 (6), VS 1 (5), HOST GND 1 (1), CLP (20), C. BLK (18), SYNC ON G (16), INPUT SEL (10), G. SYNC DET (15), SCL (9), SDA (8), H. SYNC (14), V. SYNC (13), HFBP (12) — TO A BOARD CN403 (B)

CN010: HV OUT SW (17), ABL (16), HDF (12), VDF (14), HV DET (18), H CENT (20), HSP BAL (22), HL IN BAL (23), H SIZE (24), H SHAPE (25), TXD (6), RXD (8), +15V (1), +15V (2), -15V (3), -15V (4), STBY+5V (10), S0 (19), S6 (21) — TO D BOARD CN504 (C)

CN011: S4 (2), S3 (3), S5 (4), S2 (5), S1 (7), TH DET (1), PWR SW (12), DGUS SW (14), HTR SW (16), VRET (23), ECO SW (10), HFBP (18), HD (20), V SHAPE (25), +12V (22), STBY+5V (6), 1W+5V (8), S7 (9) — TO D BOARD CN505 (D)

HC2, VC2, HS1, VC1, VS1, SDA1, SCL1, DDE, SOG DET, D SCL, D SDA, VS OSD, HFBP, D RES, D CHG, D MUTE, ECO SW, HFBP, HD, VSP

IC001 pins: 106 HS/CS2, 107 VS2, 31 HOST GND2, 46 D SCL1, 47 D SDA1, 104 HS/CS1, 103 VS1, 29 HOST GND1, 53 CLP, 51 C BLK, 108 SONG, 69 INPUT SEL, 41 SCL2, 42 SDA2, 52 H SYNC, 75 TEMP, 6 HV OUT SW, 89 ABL DET, 71 HDF0, 128 VDF, 86 HV DET, 138 H CENT, 126 HSP BAL, 144 HL IN BAL, 136 H SIZE, 133 HSP, 45 TXD, 44 RXD, 9 D RES, 10 D CHG, 11 D MUTE, 54 S0, 61 S6, 59 S4, 58 S3, 60 S5, 56 S6, 55 S1, 88 TH DET, 15, 94 PWR SW/PRT DET, 95 DGS, 93 HTR, 92 V RET, 63 XTB, 64 XTD, 25 SC OUT

IC001 pins: 156 LCC LB, 152 LCC LT, 157 LCC RB, 153 LCC RT, 149 LCC NS, 140 ROTATION, 148 H CONV, 131 V CONV, 83 VX, 84 VY, 39 SDA1, 38 SCL1, 40 EEPWC, 33 WDP, 34 RESET, 14 P41/D1, 3 LED0, 4 LED1, 76 KEYDET, 13 INPUT SW, 77 ENV, 19 OFF DET, 8 ECO, 5 HD SW, 18 P45/D5, 124 MOIRE CONT, 99 MOIRE PLS, 120 VSH PL VL, 117 DV SHAPE, 122 VDC, 114 H PHASE, 111 HF REQ, 90 HPLL, 96 AFC SW, 67 VSH, 109 HFBP, 66 V SAW RST, 98 HS OUT

D015 DDE — STBY+5V — VS1, SCL1, SDA1 — IC011 EEP ROM (VCC, VCLK, SCL, SDA)

GS5001 GEOSENSOR (5, 6)

IC003 EEP ROM (SDA, SCL, WC)

IC002 WDT (CK, RESET)

SW Q008 — +15V

LED0, LED1, KEYDET, INPUT SW, ENV

ACTIVE OFF DET Q004-006 — SOG DET

ECO SW Q007

HD SW Q011

IC010 H. V. OSC, AFC, H. DRV, V. SHAPE (AFC FIL, VSHPLVL, DV SHAPE, VDC, H PHASE, H FREQ, HPLL, AFC SW, VSH, FBP, V SAW RST, HS, HD DUTY, REG9V)

CURRENT MILLER Q001-003 — +12V

IC004 ECO DET (1CLR, 2CLR, 1CK, 2CK, 1Q, 2Q) — HC1, VC1

IC005 ECO DET (1CLR, 2CLR, 1CK, 2CK, 1Q, 2Q) — HC2, VC2

Q012, Q010

X001 24.756MHz

VSOSD, HFBP, HFBP, VSOSD, VSP, HD, ECO SW

IC5301 (2/2), IC5301 (1/2), IC5101 (2/2), IC5101 (1/2), IC5201 (2/2), IC5201 (1/2), IC5401 (2/2), IC5401 (1/2)

CN5002: LCC-LB (+), LCC-LB (-), LCC-LT (+), LCC-LT (-), LCC-RB (+), LCC-RB (-), LCC-RT (+), LCC-RT (-) — LCC-LB, LCC-LT, LCC-RB, LCC-RT

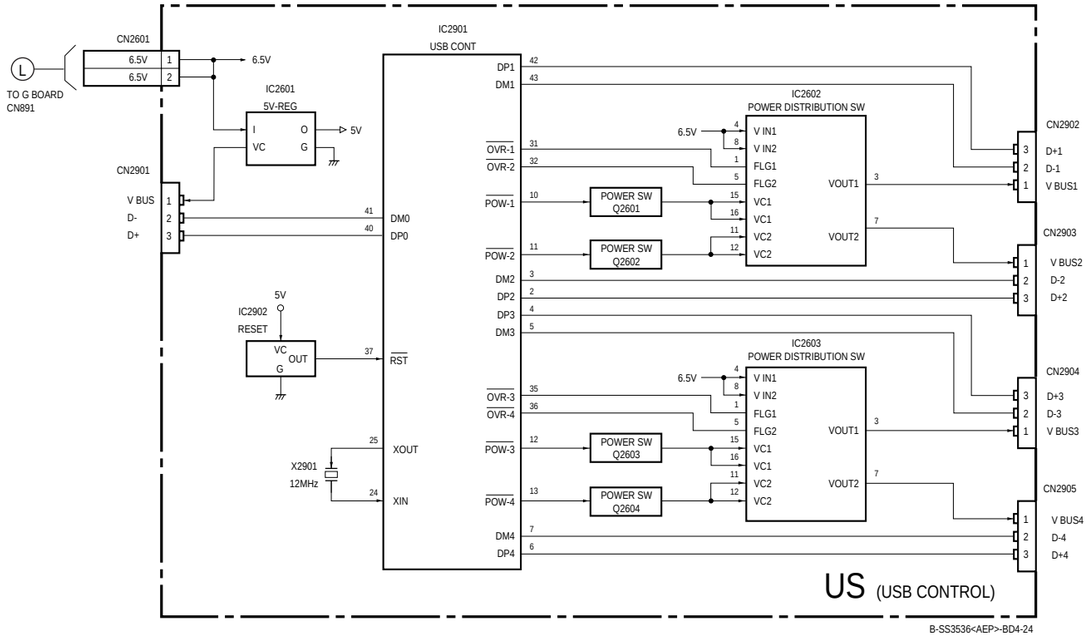
CN5003: LCC-NS (+), LCC-NS (-) — LCC-NS

CN5001: ROTATION (+), ROTATION (-), H CONV (+), H CONV (-), V CONV (+), V CONV (-) — ROTATION, H. CONV, V. CONV

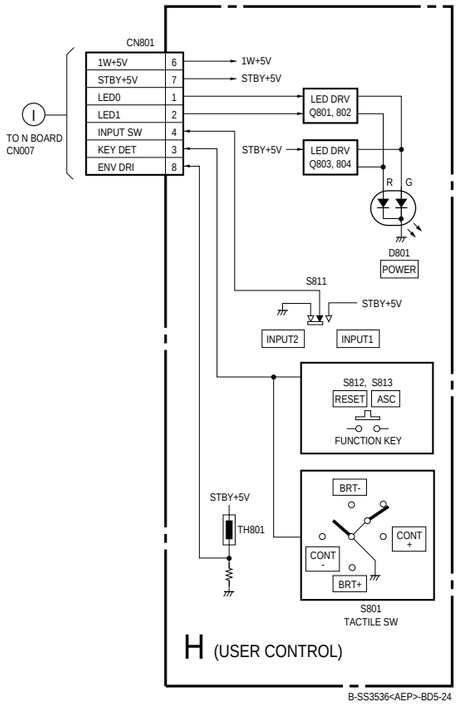
CN007: 1W+5V, STBY+5V, LED0, LED1, KEY DET, INPUT SW, ENV DRI — TO H BOARD CN801 (I)

CN003: STBY+5V, HFBP, V SAW RST, D CON CH, D CON RES, D CON MUTE, SCL, SDA — TO S BOARD CN3001 (J)

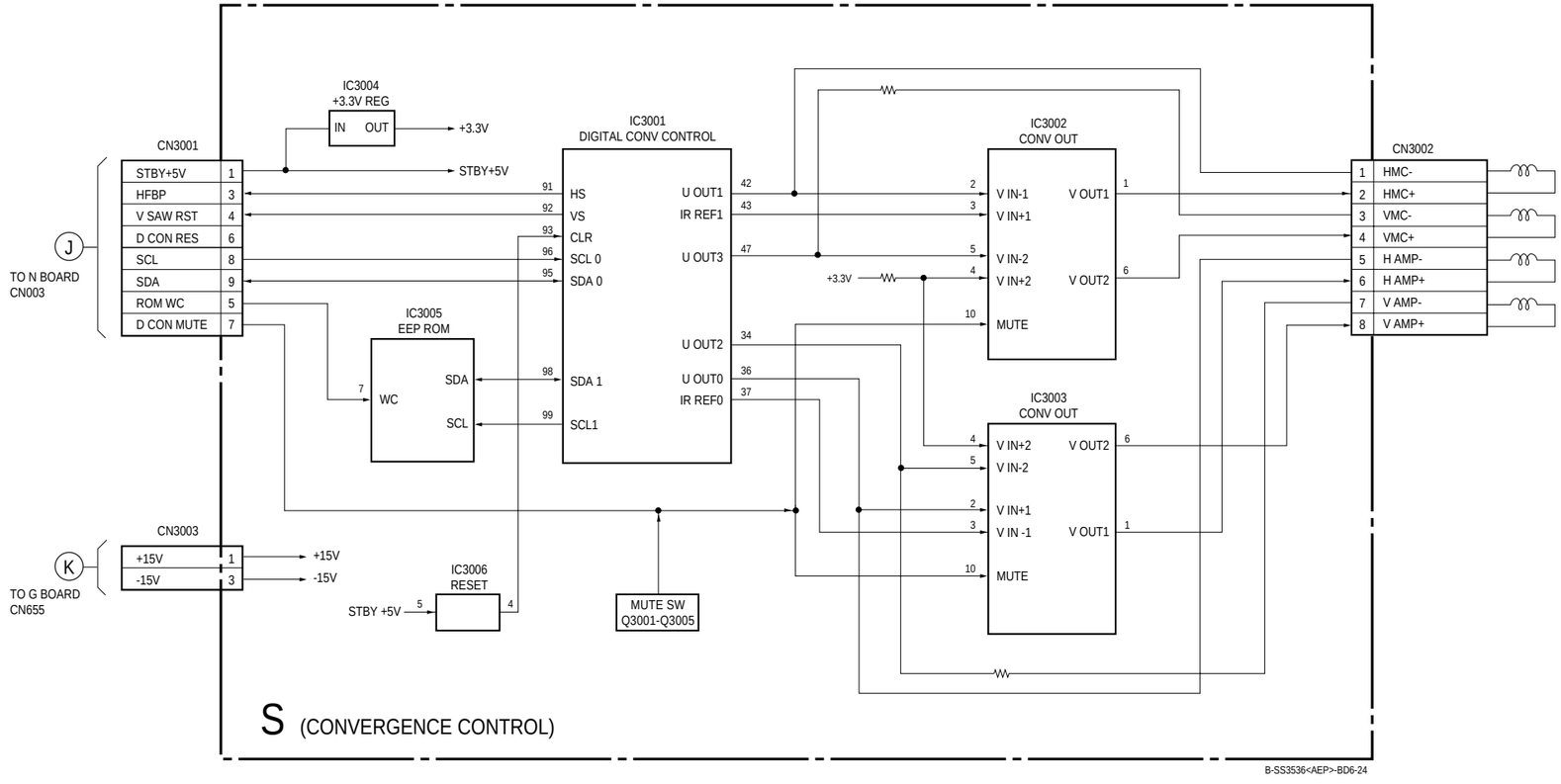
B-SS3536<AEP>-BD2-24



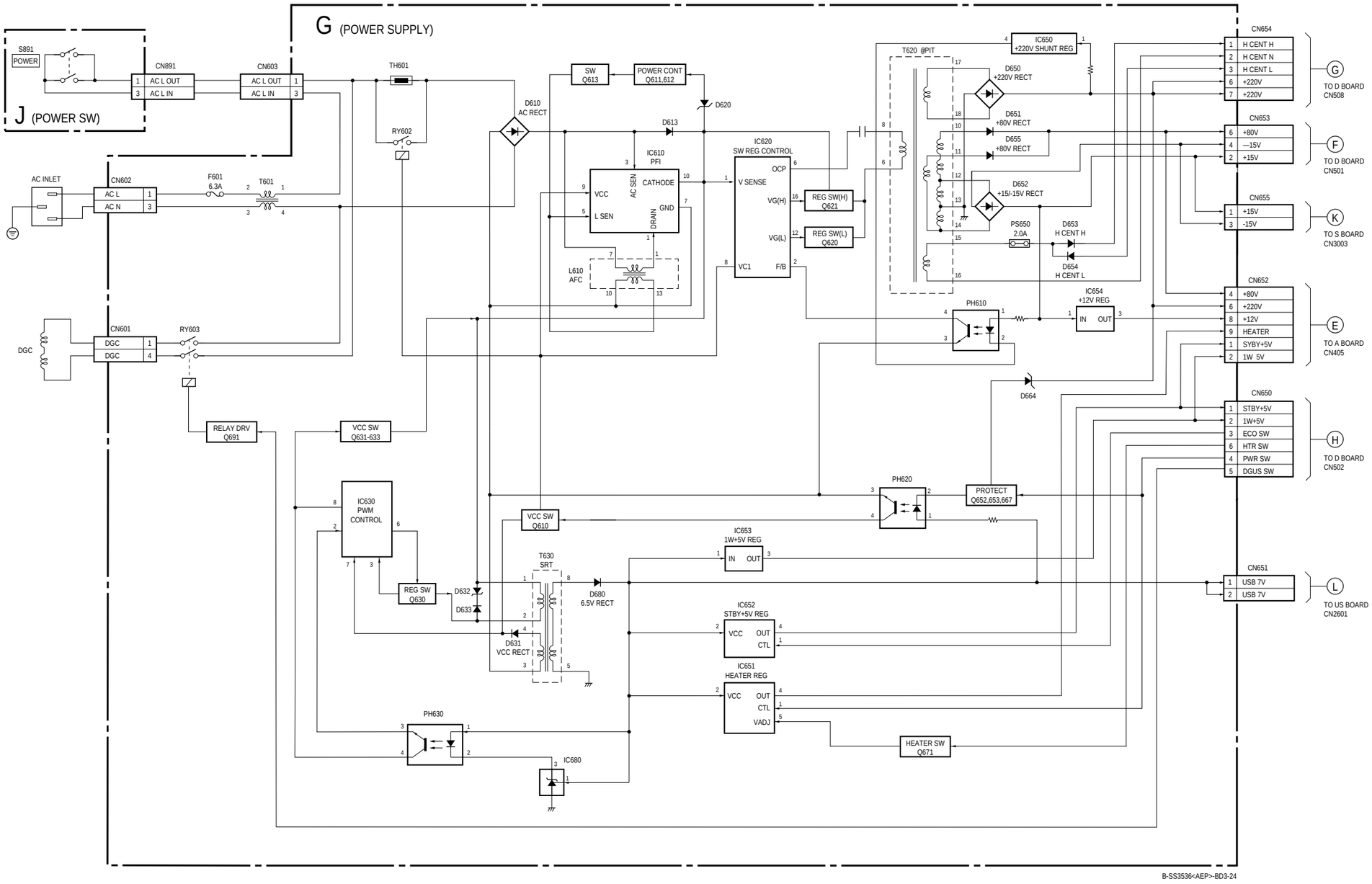
B-SS3536<AEP>-BD4-24



B-SS3536<AEP>-BD5-24

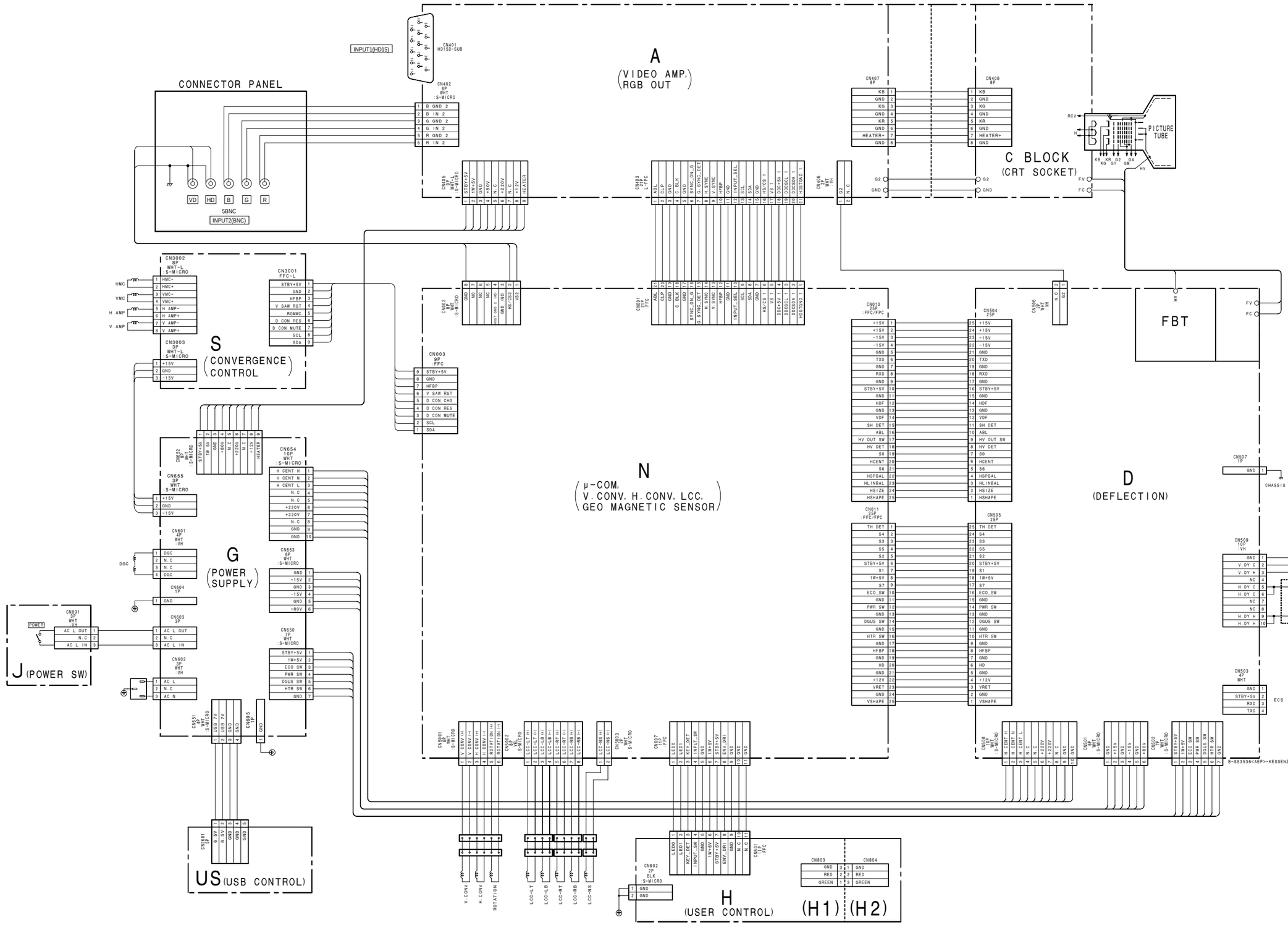


B-SS3536<AEP>-BD6-24

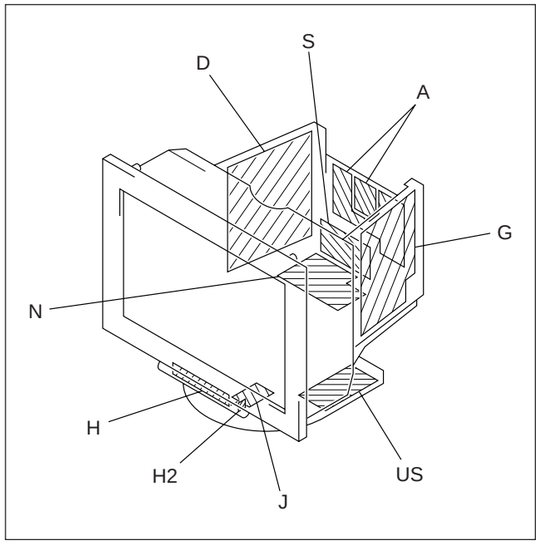


B-SS3536<AEP>-BD3-24

5-2. FRAME SCHEMATIC DIAGRAM



5-3. CIRCUIT BOARDS LOCATION



5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. (pF: µµF) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by ⧓ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 3-1)
- When replacing the part in below table, be sure to perform the related adjustment.

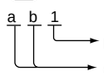
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All voltages are in V.
- Readings are taken with a 10 M digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ∗ : Can not be measured.
- Circled numbers are waveform references.
- : B + bus.
- : B – bus.

- Divided circuit diagram

  One sheet of N board circuit diagram is divided into three sheets, each having the code N-ⓐ to N-ⓒ. For example, the destination (ab1) on the code N-ⓐ sheet is connected to (ab1) on the N-ⓑ sheet.



	Part Replaced (⧓)
HV ADJ	RV901

		Part Replaced (◪)
HV Regulator Circuit Check	D Board	IC901, R923, R924, R929, R943, T902(FBT) • Mounted D Board
HV Protector Circuit Check	D Board	C922, C926, D912, D915, D921, Q907, Q908, R921, R922, R932, R937, R939, T902(FBT) • Mounted D Board
Beam Current Protector Circuit Check	D Board	C921, C933, D901, D913, R920, R928, R930, R931, T902(FBT) • Mounted D Board
	N Board	IC001, R031, R032 • Mounted N Board

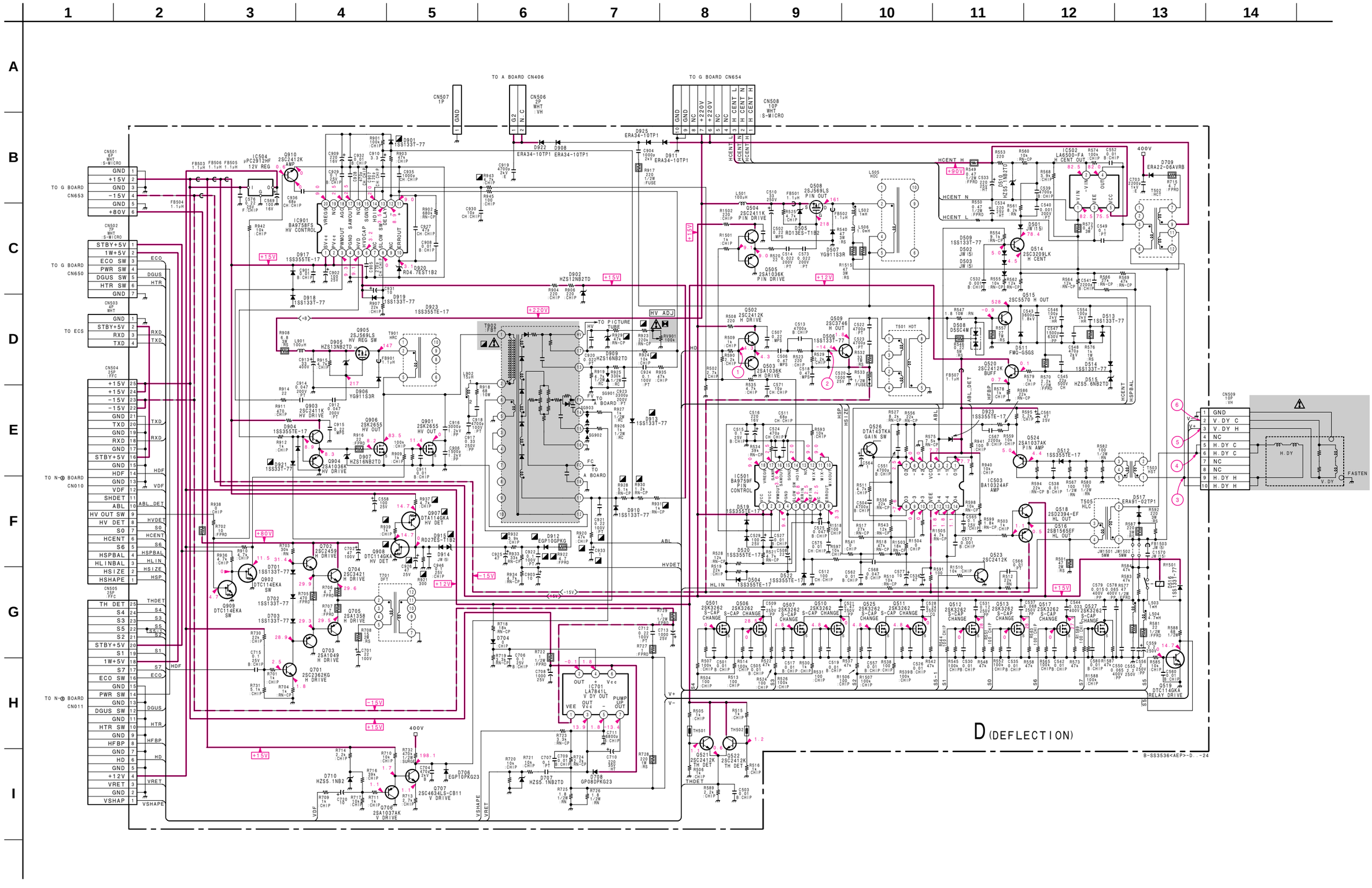
Terminal name of semiconductors in silk screen printed circuit (∗)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor	T	Collector / Base T Emitter	
②	Transistor	—	Collector / Base — Emitter	
③	Diode		Cathode — Anode	
④	Diode	T	Cathode / Anode T (NC)	
⑤	Diode	—	Cathode / Anode — (NC)	
⑥	Diode	T	Common / Anode T Cathode	
⑦	Diode	—	Common / Anode — Cathode	
⑧	Diode	T	Common / Anode T Anode	
⑨	Diode	—	Common / Anode — Anode	
⑩	Diode	T	Common / Cathode T Cathode	
⑪	Diode	—	Common / Cathode — Cathode	
⑫	Diode	|	Anode Cathode / Anode Anode / Cathode Anode	
⑬	Transistor (FET)	|	Drain | Source / Gate	
⑭	Transistor (FET)	⊢	Drain ⊢ Source / Gate	
⑮	Transistor (FET)	|	□ Source / □ Drain / □ Gate	
⑯	Transistor	|	□ Emitter / □ Collector / □ Base	
—	Discrete semiconductot			

(Chip semiconductors that are not actually used are included.)

Ver.1.6

(1) Schematic Diagram of D Board



• D BOARD WAVEFORMS

① 4.5 Vp-p (H)	② 1.9 Vp-p (H)	③ 1.25 kVp-p (H)
④ 80.0 Vp-p (H)	⑤ 54.5 Vp-p (H)	⑥ 2.1 Vp-p (H)

• D BOARD SEMICONDUCTOR LOCATION

IC

	(Conductor Side)	(Component Side)
IC501	D-4	
IC502	A-1	A-5
IC503	C-4	
IC504	D-5	D-1
IC701	A-5	A-1
IC901	B-3	

TRANSISTOR

	(Conductor Side)	(Component Side)	*
Q501	B-5	B-1	–
Q502	B-4		①
Q503	B-4		①
Q504	B-2		①
Q505	B-2		①
Q506	B-5	B-1	–
Q507	B-5	B-1	–
Q508	A-2	A-4	–
Q509	B-4	B-2	–
Q510	B-5	B-1	–
Q511	B-5	B-1	–
Q512	C-5	C-1	–
Q513	C-5	C-1	–
Q514	B-2	B-4	–
Q515	A-3	A-3	–
Q516	B-4	B-2	–
Q517	C-5	C-1	–
Q518	B-4	B-2	–
Q519	C-5		①
Q520	B-3		①
Q521	C-5		①
Q522	C-5		①
Q523	C-5		①
Q524	B-3		①
Q525	B-5	B-1	–
Q526	D-4		①
Q527	B-5	B-1	–
Q701	D-4	D-2	–
Q702	D-3	D-3	–
Q703	D-4	D-2	–
Q704	D-3	D-2	–
Q705	D-4	D-2	–
Q706	D-3		①
Q707	D-2	D-4	–
Q901	C-4	C-2	–
Q902	C-5		①
Q903	C-3		①
Q904	C-3		①
Q905	C-3	C-3	–
Q906	C-3	C-3	–
Q907	C-4		①
Q908	C-4		①
Q909	C-5		①
Q910	B-4		①

DIODE

	(Conductor Side)	(Component Side)	*
D504	D-5		③
D505	A-1	A-5	–
D506	B-4	B-2	–
D507	A-2	A-4	–
D508	A-3	A-3	–
D509	B-2	B-4	–
D510	A-1	A-5	–
D511	A-2	A-4	–
D512	B-3		③
D513	B-2	B-4	–
D514	B-3	B-3	–
D515	B-3	B-3	–
D516	C-4	C-2	–
D517	A-3	A-3	–
D519	D-5		③
D520	D-5		③
D522	D-5		③
D701	D-4	D-2	–
D702	D-4	D-2	–
D703	D-4	D-2	–
D706	D-1	D-5	–
D707	A-5	A-1	–
D708	A-5	A-1	–
D709	B-1	B-4	–
D710	D-3	D-3	–
D901	B-3	B-3	–
D902	B-3	B-3	–
D904	C-3		③
D905	C-3	C-3	–
D906	D-3	D-3	–
D907	C-3	C-3	–
D908	B-2	B-4	–
D909	C-1	C-5	–
D910	C-2	C-4	–
D911	B-1	B-4	–
D912	C-2	C-4	–
D913	B-3	B-3	–
D915	B-4	B-2	–
D917	B-3		③
D918	B-3	B-3	–
D919	B-3	B-3	–
D920	B-3	B-3	–
D921	C-3	C-3	–
D922	B-2	B-4	–
D923	C-4		③
D925	B-2	B-4	–

VARIABLE RESISTOR

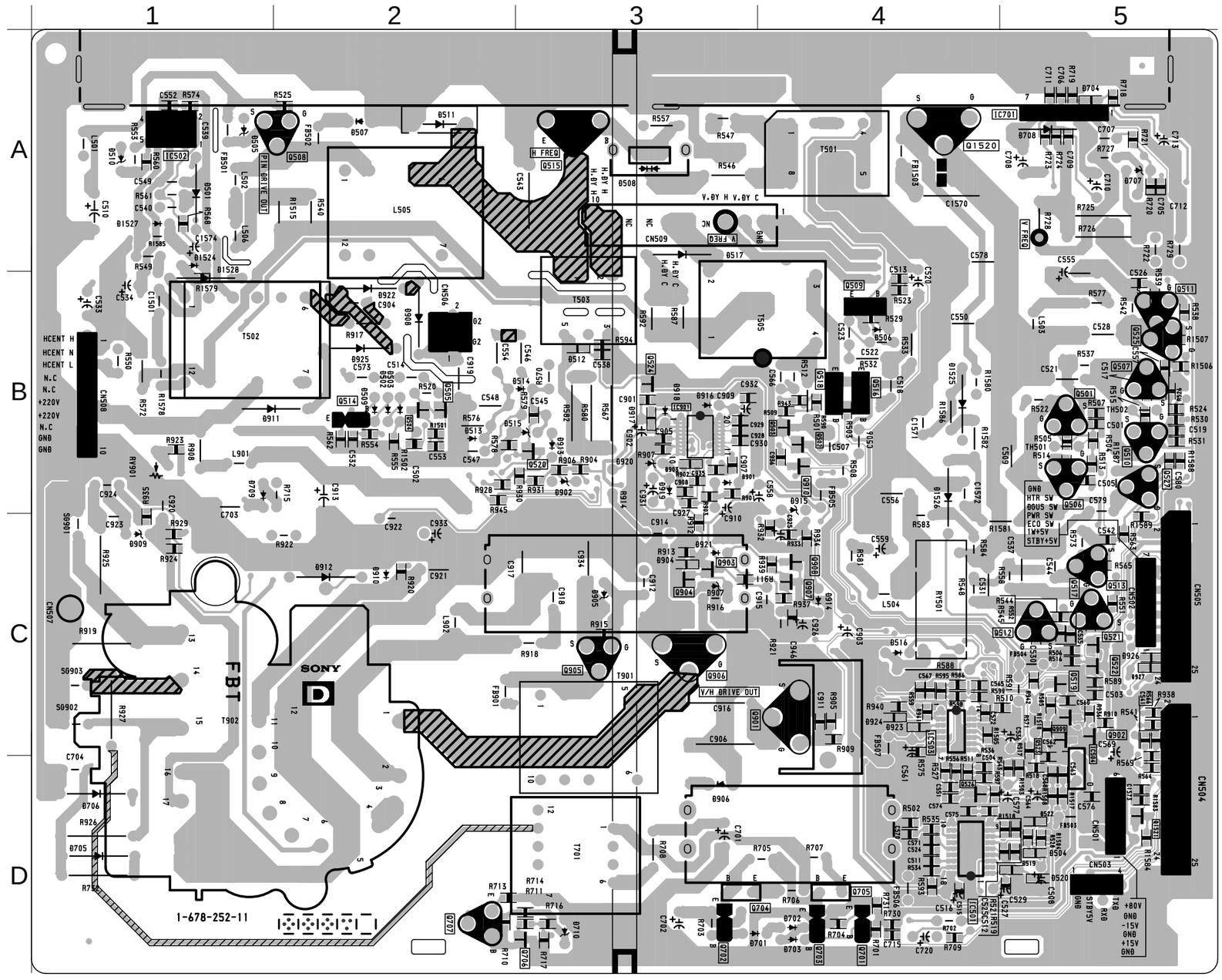
	(Conductor Side)	(Component Side)	*
RV901	B-1	B-5	–

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-12)

Schematic diagram

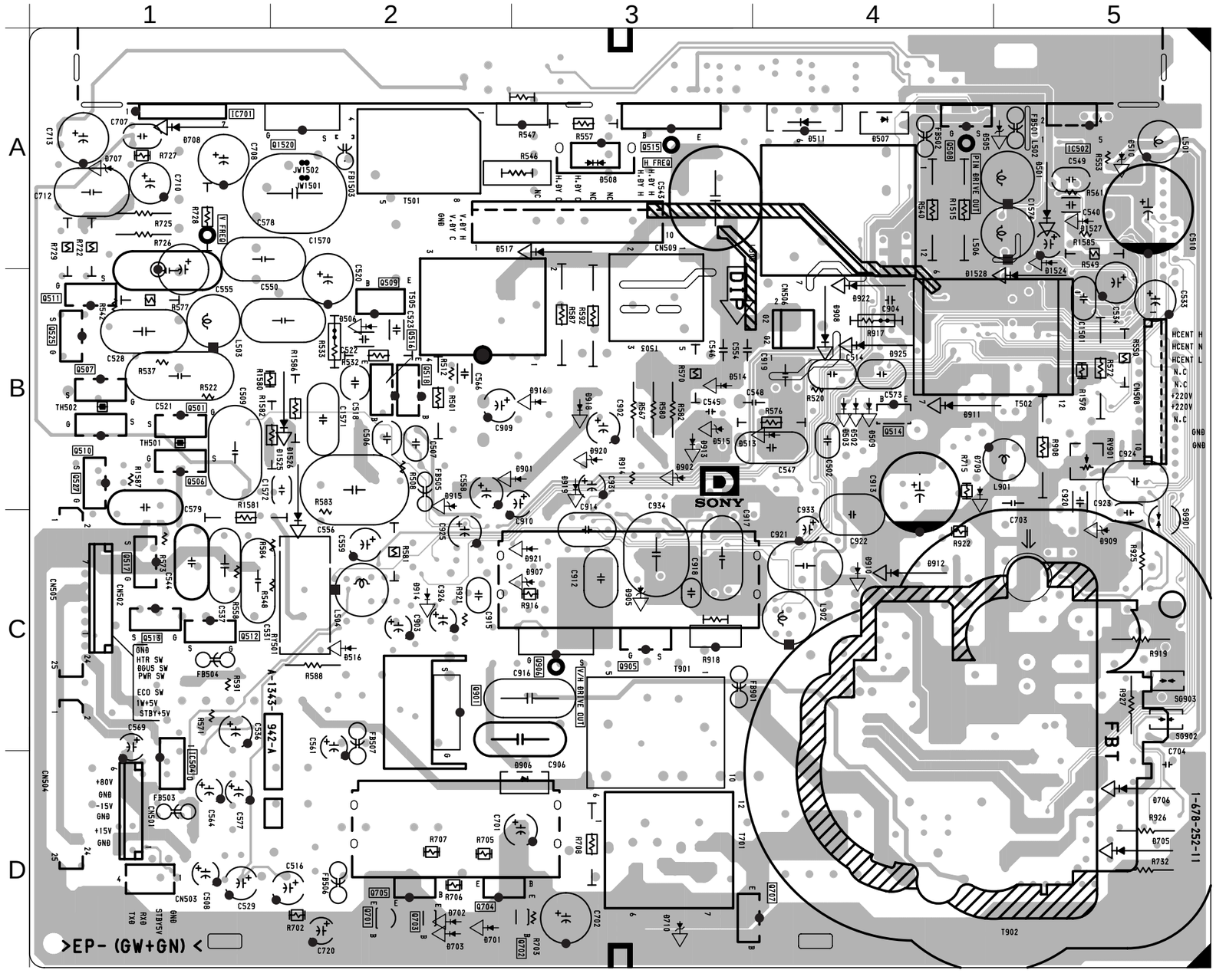
← D board

— D BOARD (Conductor Side)—

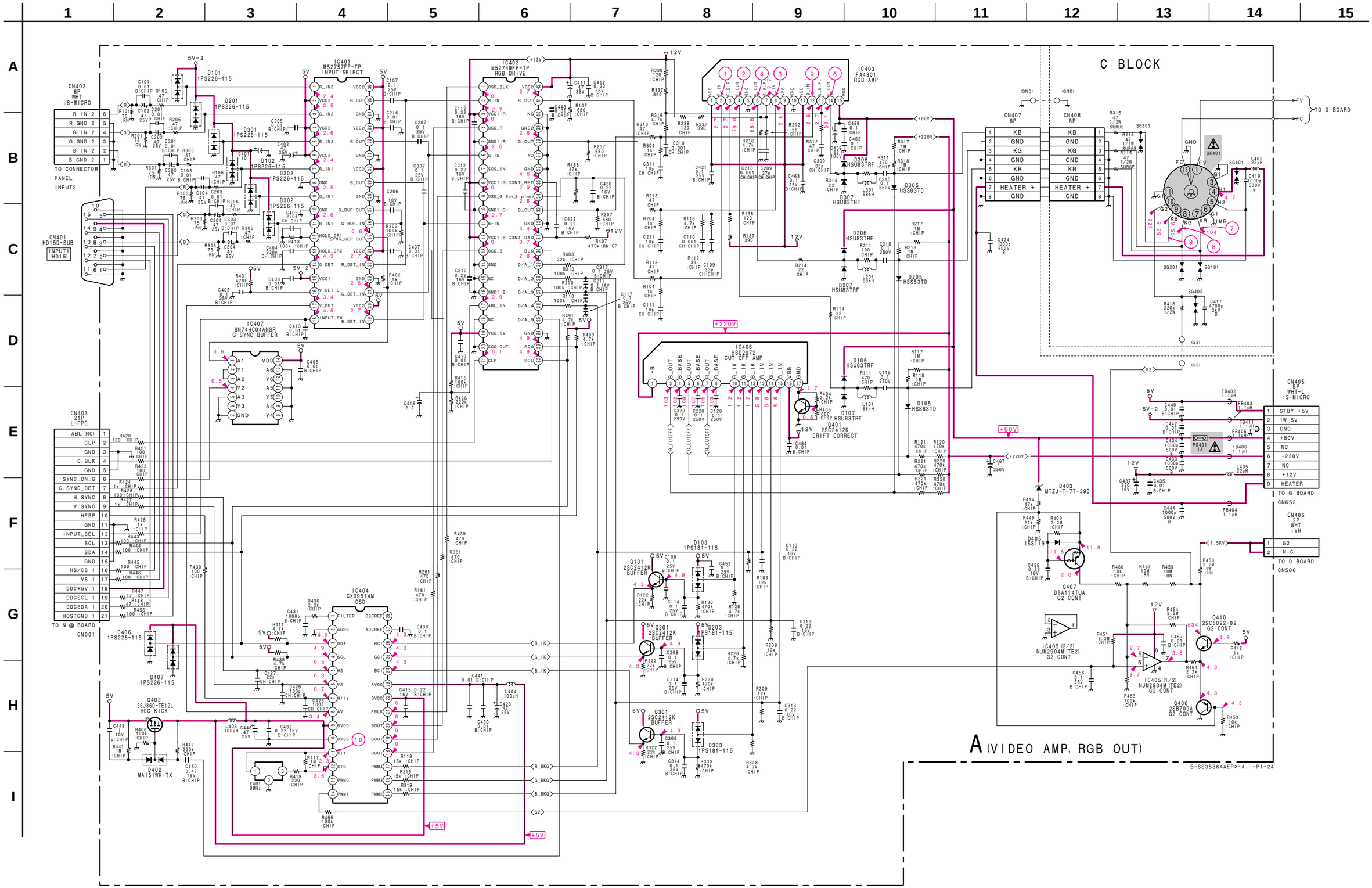


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

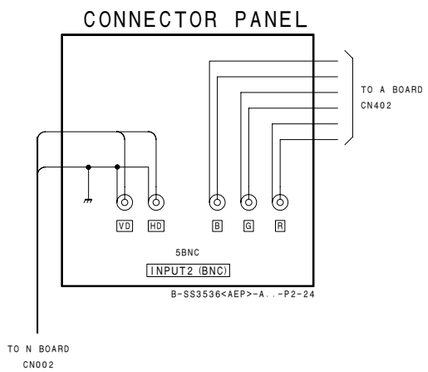
— D BOARD (Component Side)—

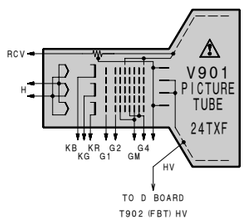


(2) Schematic Diagram of A Board



Schematic diagram
A board ➡

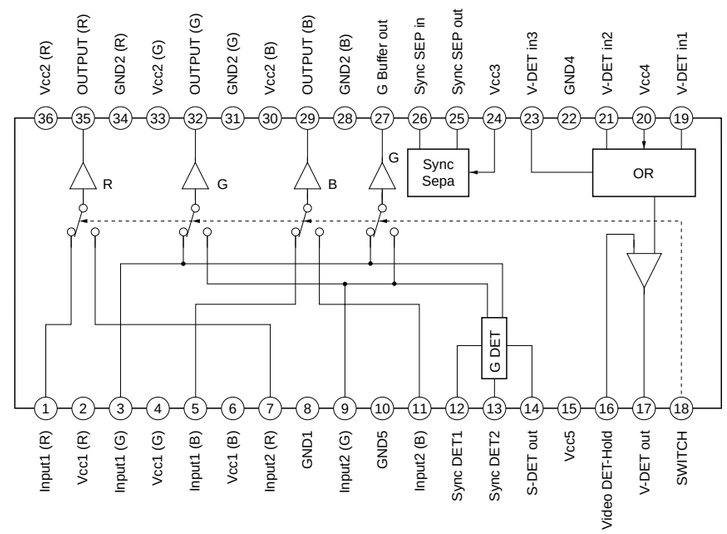




• A BOARD WAVEFORMS

① 4.0 Vp-p (H)	② 56.0 Vp-p (H)	③ 4.0 Vp-p (H)
④ 56.0 Vp-p (H)	⑤ 4.2 Vp-p (H)	⑥ 58.0 Vp-p (H)
⑦ 53.0 Vp-p (H)	⑧ 55.0 Vp-p (H)	⑨ 58.0 Vp-p (H)
⑩ 2.2 Vp-p (8MHz)		

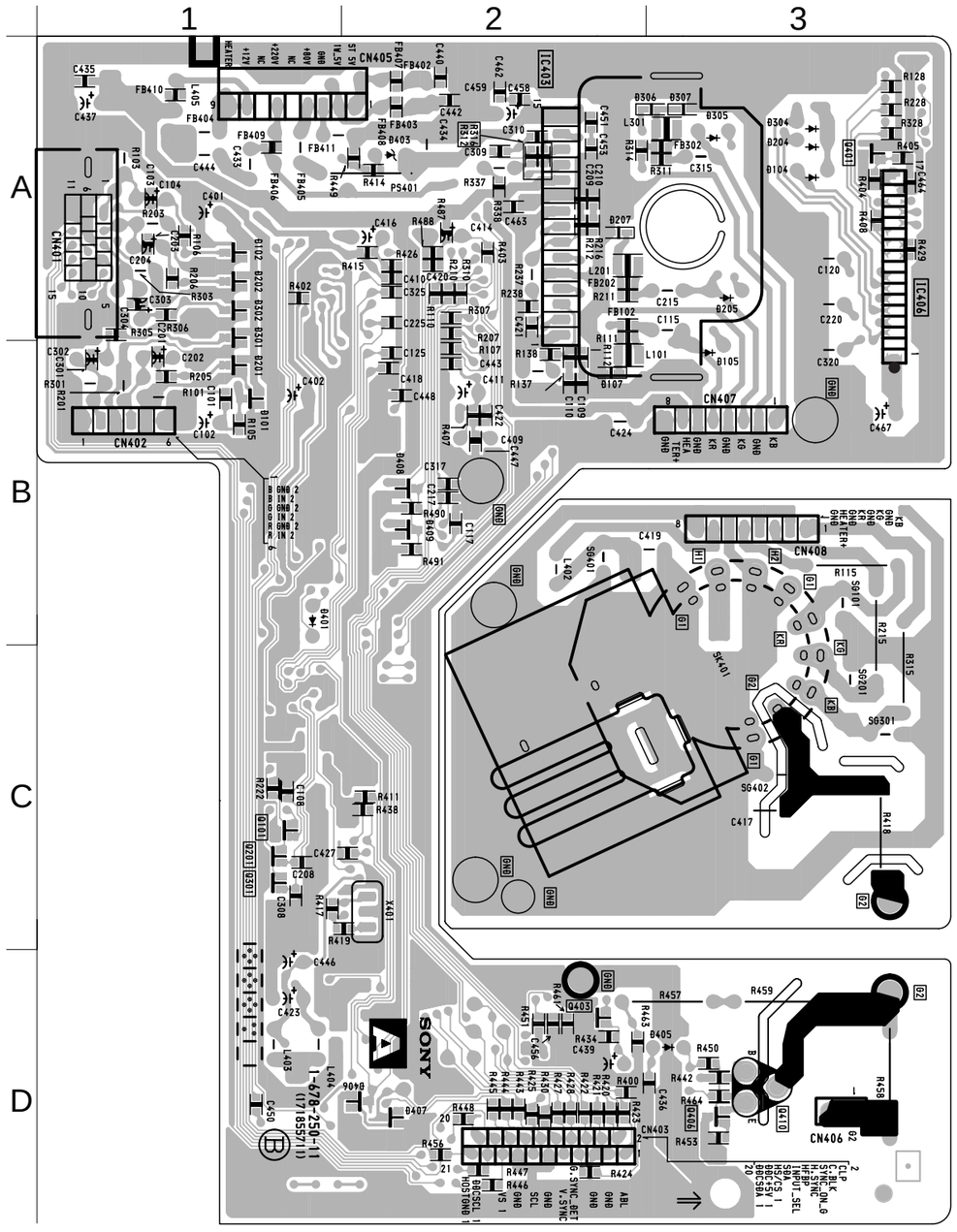
• A BOARD IC401 M52757FP



• A BOARD IC402 M52749FP

A [VIDEO AMP / RGB OUT]

— A BOARD (Conductor Side) —



• A BOARD SEMICONDUCTOR LOCATION

IC	(Conductor Side)	(Component Side)
IC401		B-3
IC402		B-2
IC403	A-2	A-2
IC404		C-3
IC405		D-2
IC406	A-3	A-1
IC407		D-2

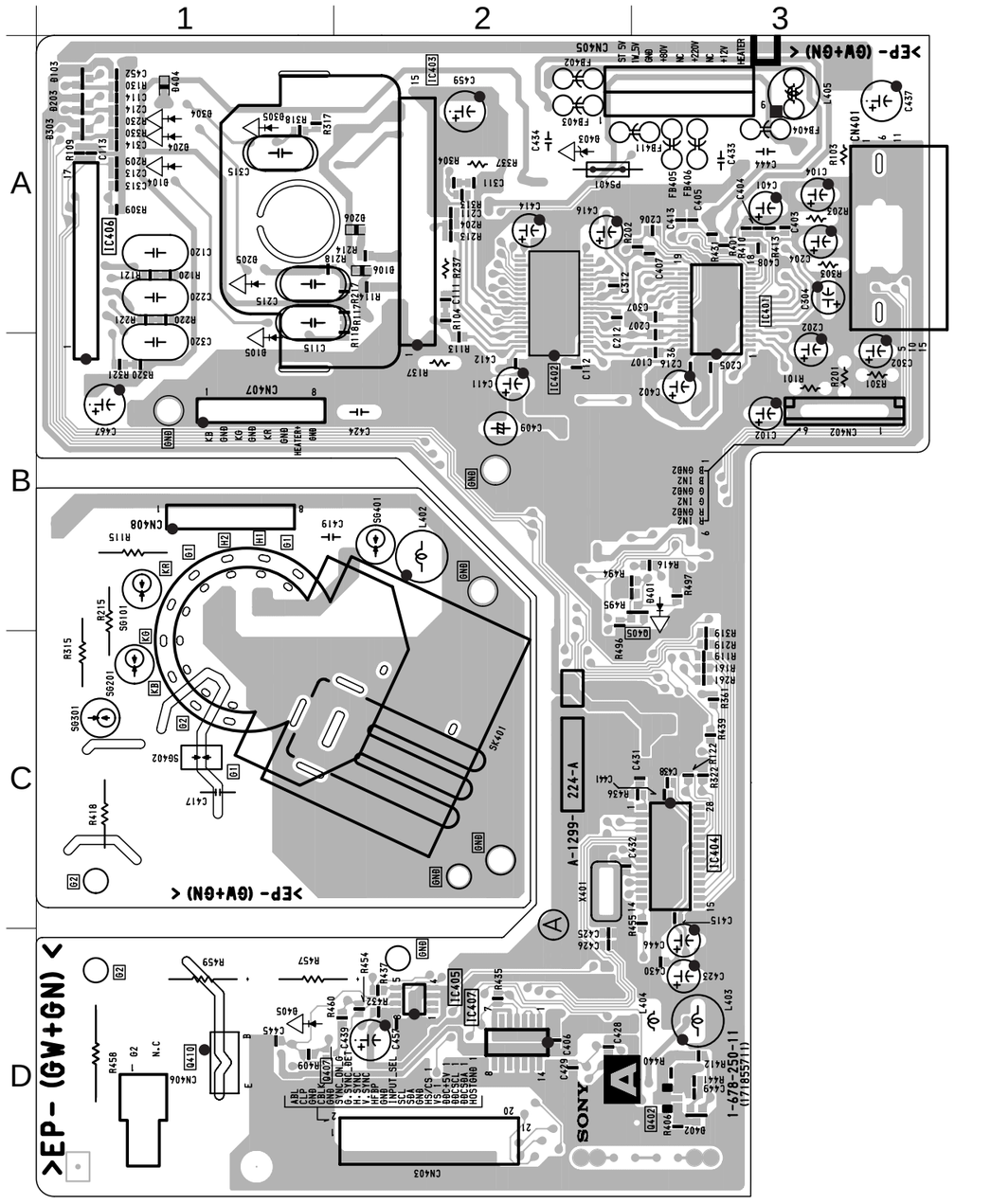
TRANSISTOR	(Conductor Side)	(Component Side)	*
Q101	C-1		①
Q201	C-1		①
Q301	C-1		①
Q401	A-3		①
Q402		D-3	⑮
Q406	D-3		①
Q407		D-2	②
Q410	D-3	D-1	–

DIODE	(Conductor Side)	(Component Side)	*
D101	B-1		⑥
D102	A-1		⑥
D103		A-1	⑪
D105	B-3	B-1	–
D106		A-2	③
D107	B-2		③
D201	B-1		⑥
D202	A-1		⑥
D203		A-1	⑪
D205	A-3	A-1	–
D206		A-2	③
D207	A-2		③
D301	B-1		⑥
D302	A-1		⑥
D303		A-1	⑪
D305	A-3	A-1	–
D306	A-3		③
D307	A-3		③
D402		D-3	⑨
D403	A-2	A-2	–
D405	D-3	D-1	–
D406	D-2		⑥
D407	D-2		⑥

CRYSTAL	(Conductor Side)	(Component Side)
X401	C-2	C-2

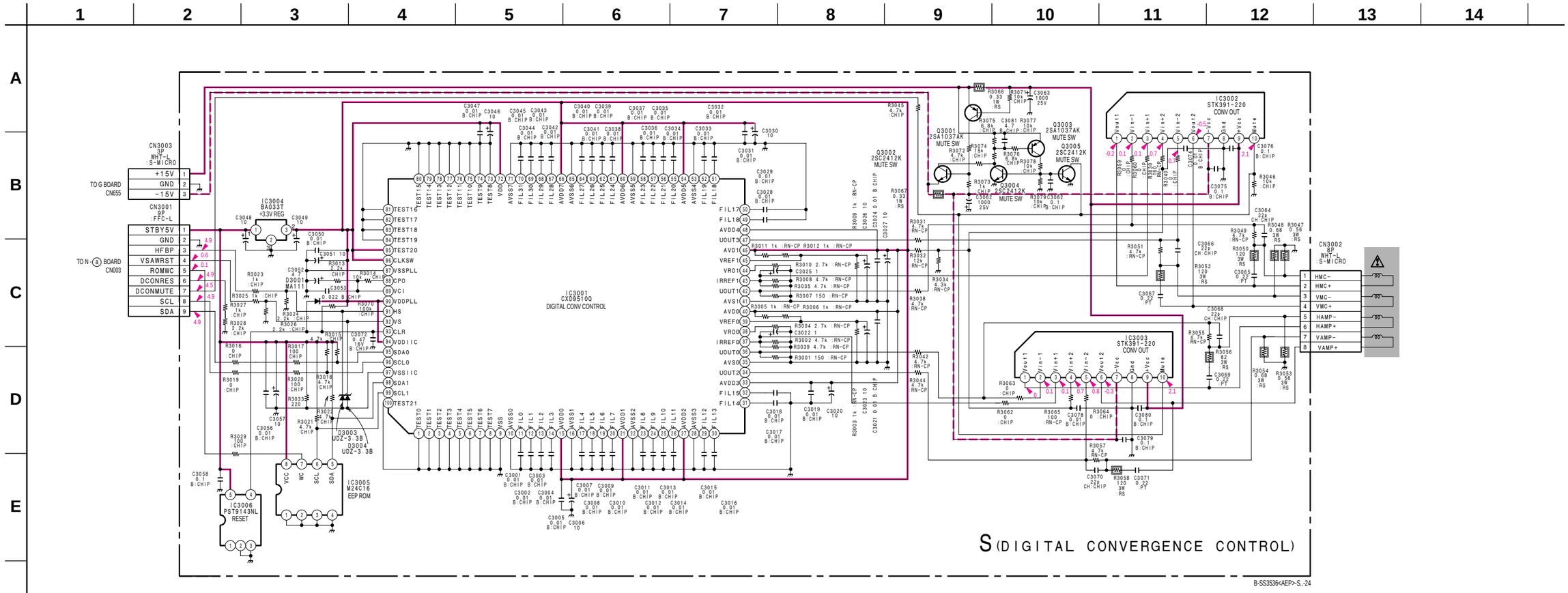
*: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-12)

— A BOARD (Component Side) —

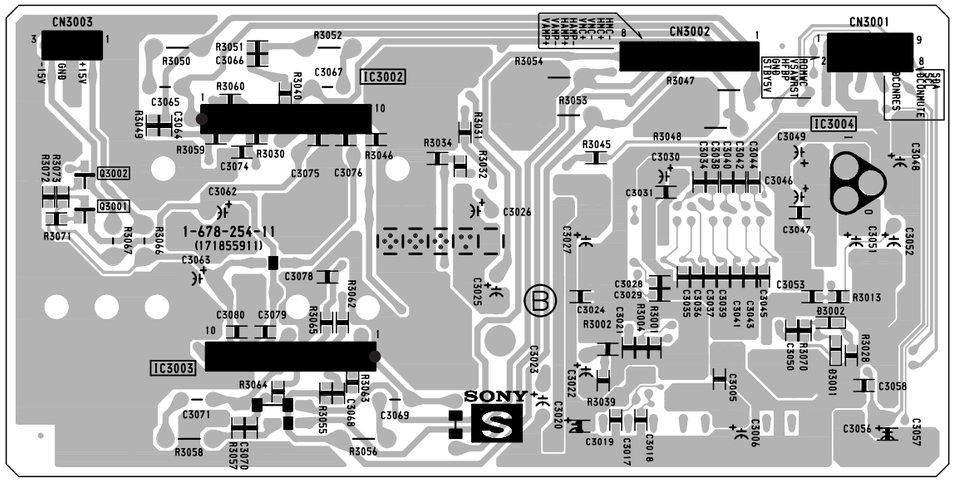


NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

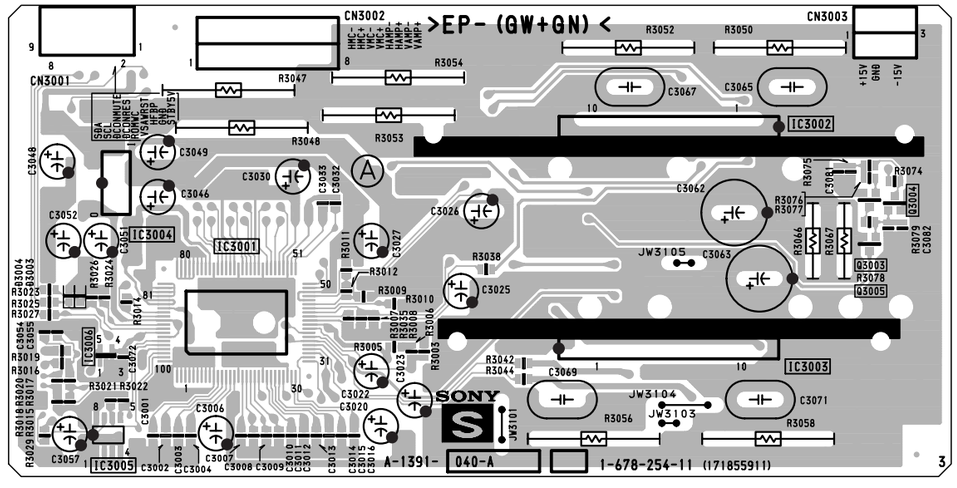
(3) Schematic Diagram of S Board



— S BOARD (Conductor Side) —



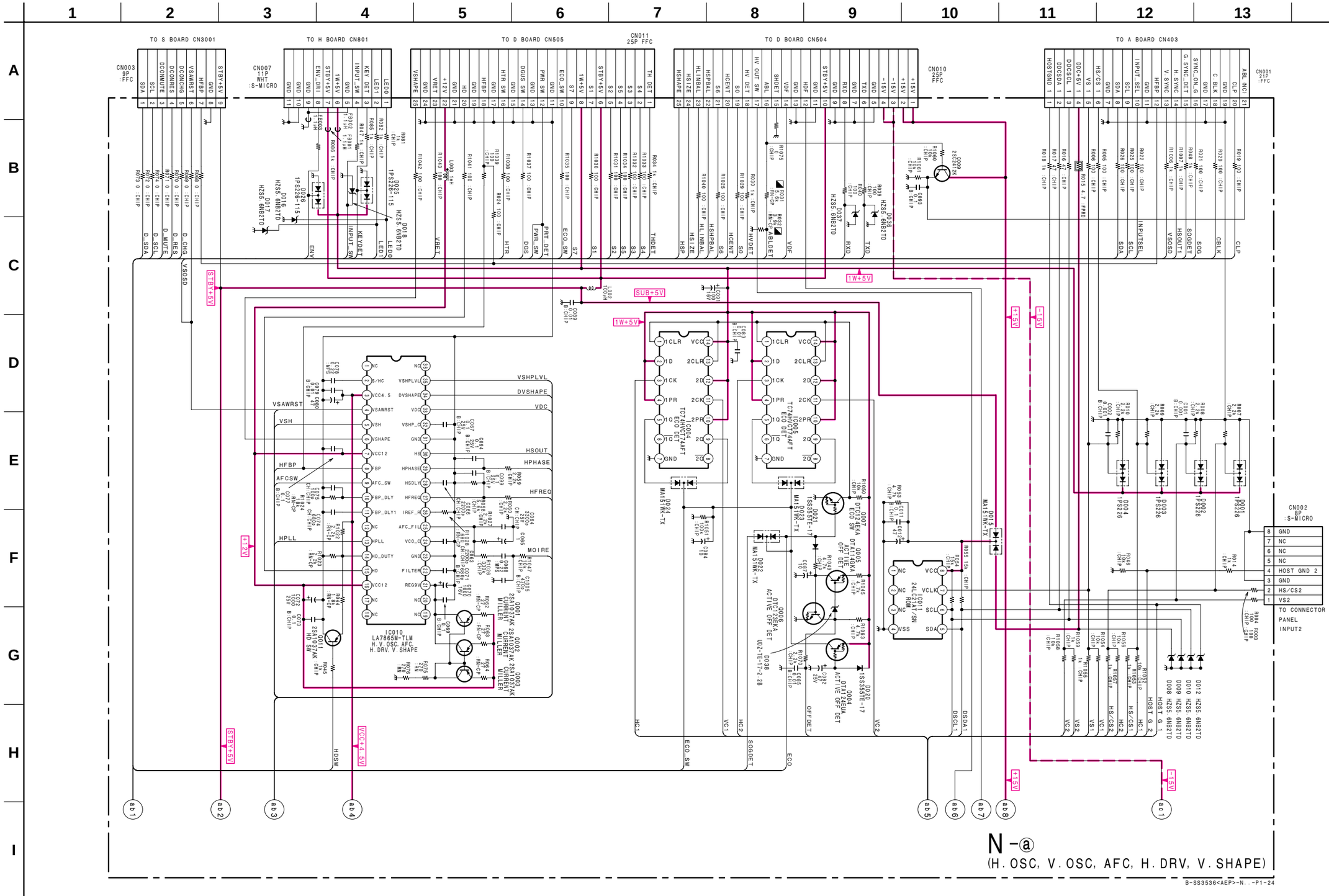
— S BOARD (Component Side) —



(4) Schematic Diagrams of N (ⓐ, ⓑ, ⓒ) Board

- Divided circuit diagram
  One sheet of N board circuit diagram is divided into three sheets, each having the code N-ⓐ to N-ⓒ. For example, the destination ab1 on the code N-ⓐ sheet is connected to ab1 on the N-ⓑ sheet.

a b 1
- 1 → Ref. No.
- a b → Circuit diagram division code



N-ⓑ
(μ-COM, GEO MAGNETIC SENSOR)

IC001
CX88440
CPU/DSP

IC002
M24C08RMT
EEP-ROM

IC003
WATCH DOG
MN1380FB

IC004
TLV431BIDBZ
VOLTAGE REF

IC005
GEOMAGNETIC SENSOR

IC006
TL082CPS-E20
ABL DET AMP

Q008
DTC114EKA
SW

Q010
2SA1037AK
INV.

Q012
DTC124EKA
INV.

D010
HZS6NB2TD

D011
HZS10NB2TD

D027
1SS355TE-17

D028
1SS355TE-17

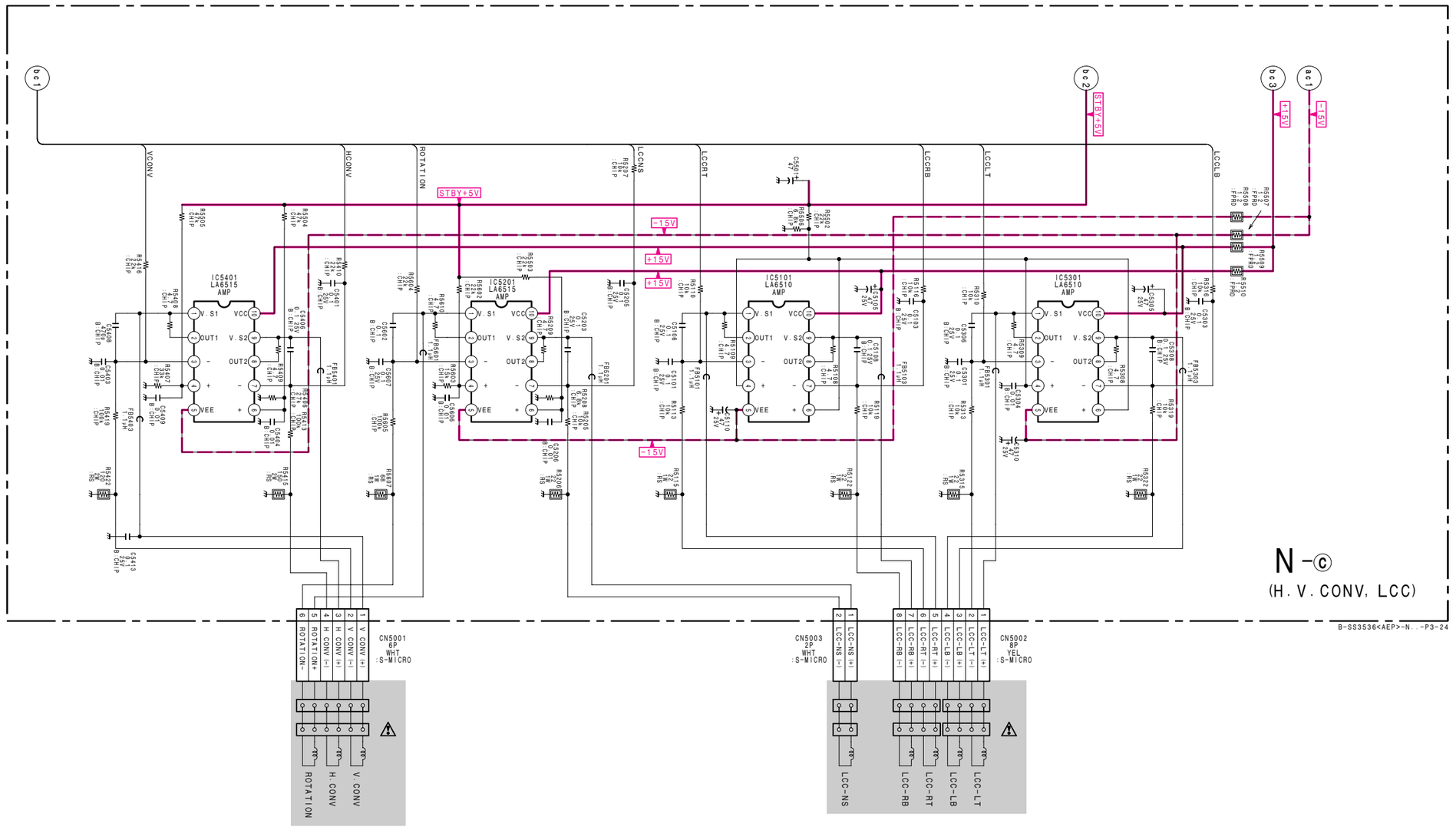
D029
HZS5.1NB2TD

STBY+5V

+15V

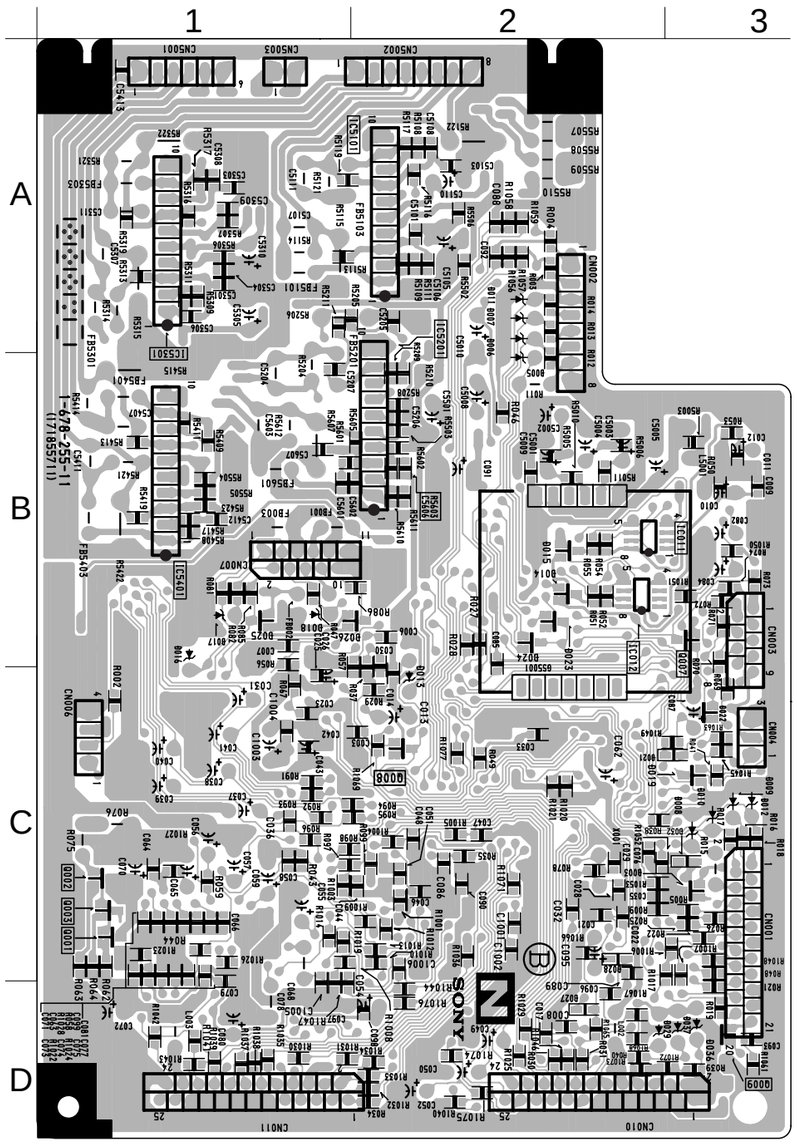
VCC+4.5V

B-SS3536<AEP>-N..-P2-24


VCONV
HCONV
ROTATION
LCONS
LCGRT
LCGRB
LCGLT
LCGLB
STBY+5V
+15V
-15V
IC5401 LA6515 AMP
IC5201 LA6515 AMP
IC5101 LA6510 AMP
IC5301 LA6510 AMP
V.S1
V.S2
VCC
VEE
OUT1
OUT2
CN5001 6P WHT :S-MICRO
ROTATION-
ROTATION+
H.CONV(-)
H.CONV(+)
V.CONV(-)
V.CONV(+)
CN5003 2P WHT :S-MICRO
LCC-NS(-)
LCC-NS(+)
CN5002 8P YEL :S-MICRO
LCC-RB(-)
LCC-RB(+)
LCC-RT(-)
LCC-RT(+)
LCC-LB(-)
LCC-LB(+)
LCC-LT(-)
LCC-LT(+)
ROTATION
H.CONV
V.CONV
LCC-NS
LCC-RB
LCC-RT
LCC-LB
LCC-LT
N -ⓒ
(H.V.CONV, LCC)
B-SS3536<AEP>-N..-P3-24

N [µ-COM, V.CONV, H.CONV, LCC, GEO MAGNETIC SENSOR]

— N BOARD (Conductor Side) —



- **N BOARD SEMICONDUCTOR LOCATION**

IC	(Conductor Side)	(Component Side)
IC001		C-2
IC002		C-2
IC003		C-2
IC004		B-2
IC005		B-2
IC006		D-1
IC010		C-2
IC011	B-2	
IC5101	A-2	A-2
IC5201	B-2	B-2
IC5301	A-1	A-2
IC5401	B-1	B-2

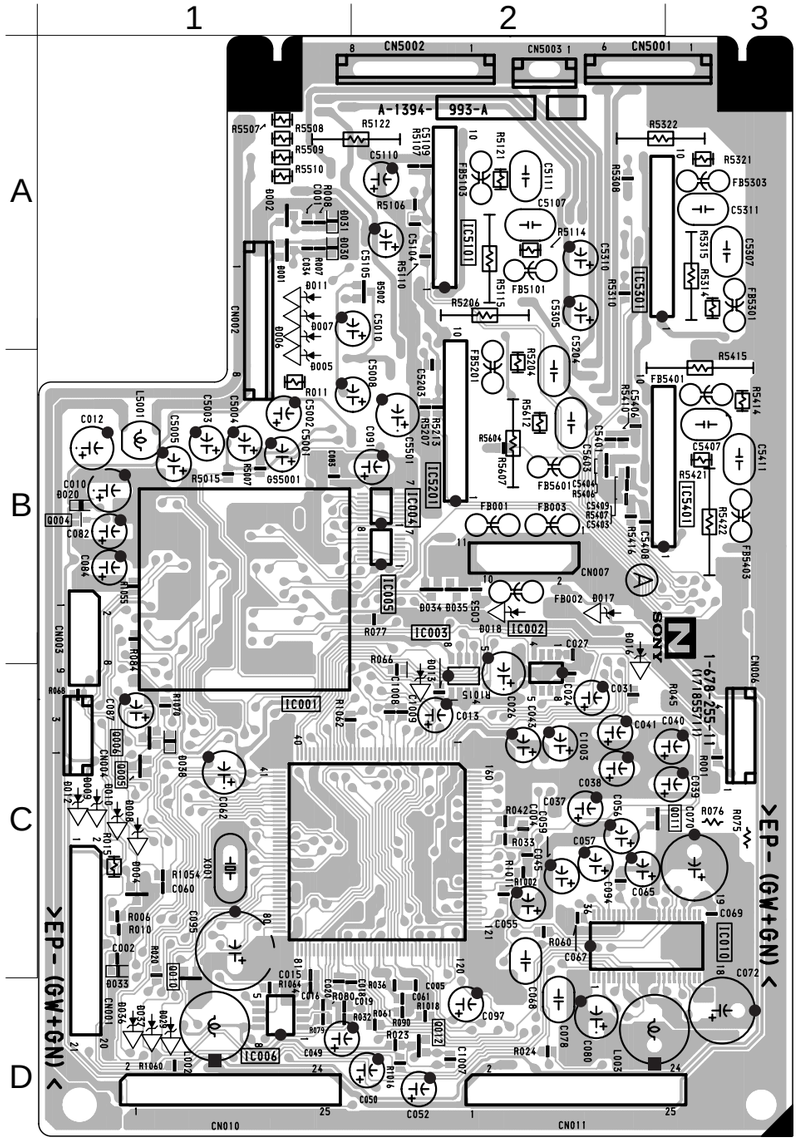
TRANSISTOR	(Conductor Side)	(Component Side)	*
Q001	C-1		①
Q002	C-1		①
Q003	C-1		①
Q004		B-1	②
Q005		C-1	②
Q006		C-1	②
Q007	B-3		①
Q008	C-2		①
Q010		C-1	②
Q011		C-2	②
Q012		D-2	②

DIODE	(Conductor Side)	(Component Side)	*
D001		A-1	⑦
D002		A-1	⑦
D003	C-3		⑥
D004		C-1	⑦
D008	C-3	C-1	–
D009	C-3	C-1	–
D010	C-3	C-1	–
D012	C-3	C-1	–
D013	C-2	C-2	–
D015	B-2		⑧
D016	B-1	B-2	–
D017	B-1	B-2	–
D018	B-1	B-2	–
D020		B-1	③
D021	C-3		③
D022	C-3		⑧
D023	B-2		⑧
D024	B-2		⑧
D025	B-1		⑥
D026	B-2		⑥
D027	D-2		③
D028	D-2		③
D029	D-3	D-1	–
D036	D-3	D-1	–
D037	D-3	D-1	–
D038		C-1	③

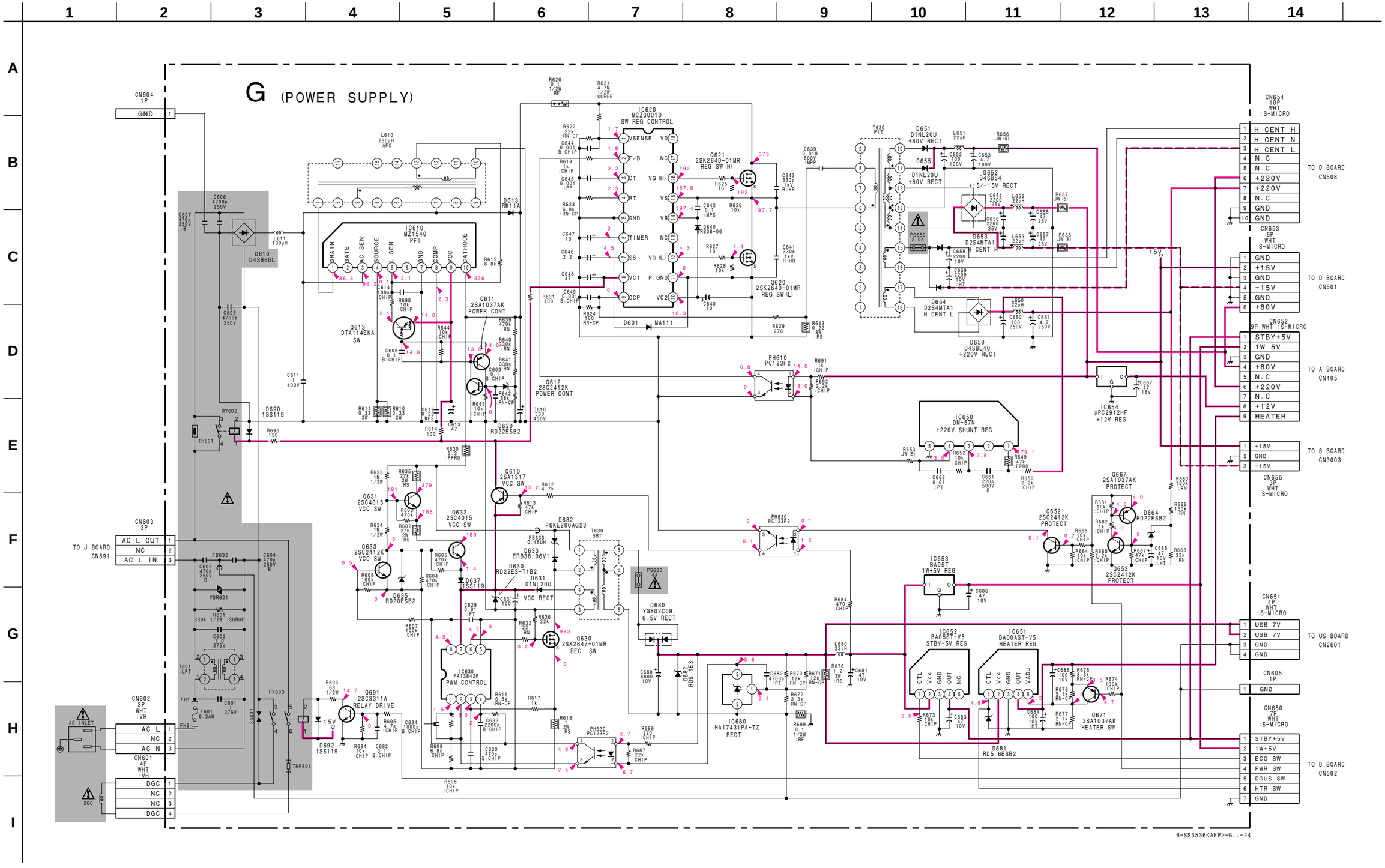
CRYSTAL	(Conductor Side)	(Component Side)
X001	C-2	C-1

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-12)

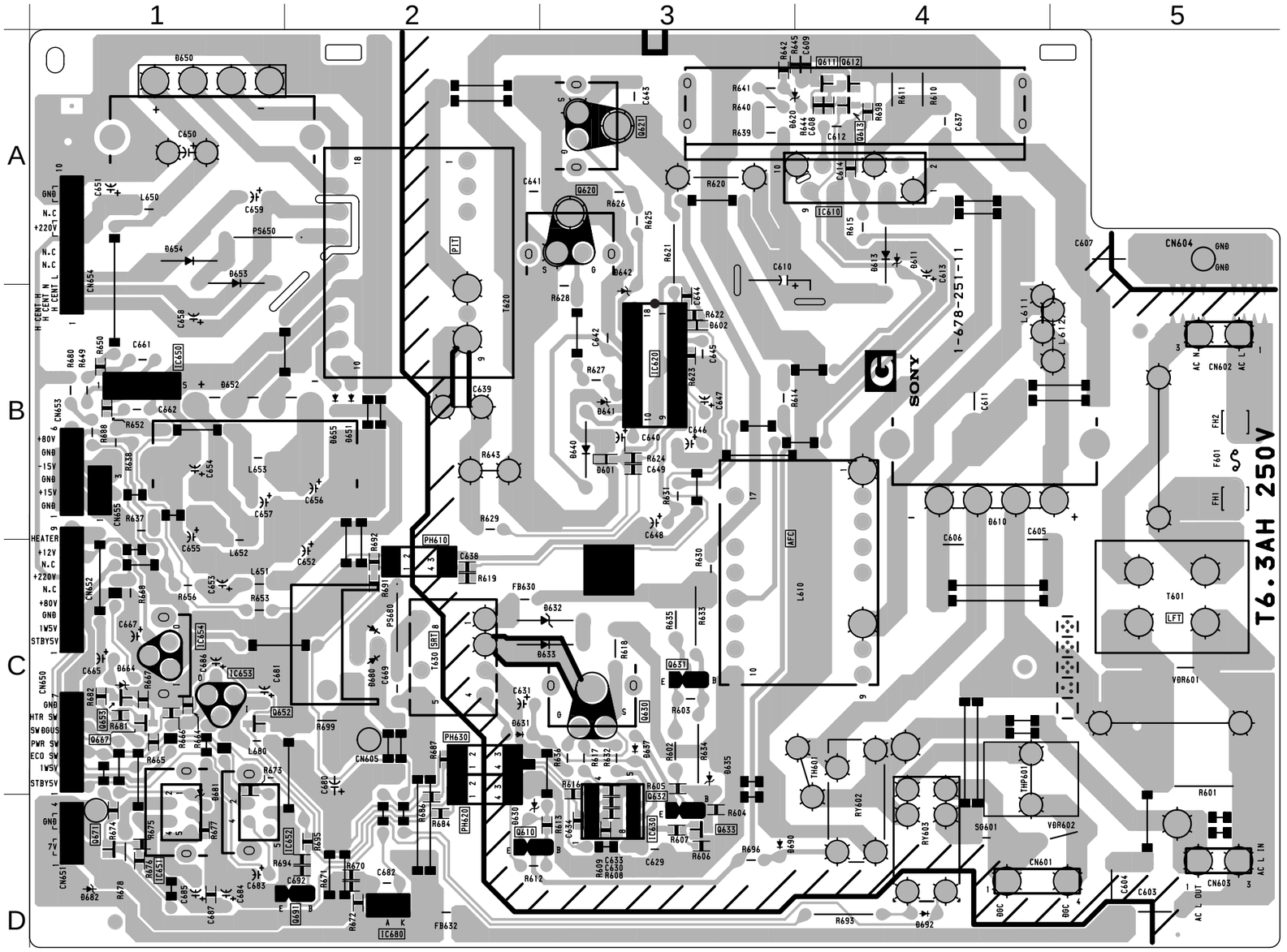
— N BOARD (Component Side) —



(5) Schematic Diagram of G Board



— G BOARD —



- **G BOARD SEMICONDUCTOR LOCATION**

IC		
IC610	A-4	
IC620	B-3	
IC630	D-3	
IC650	B-1	
IC651	D-1	
IC652	D-1	
IC653	C-1	
IC654	C-1	
IC680	D-2	

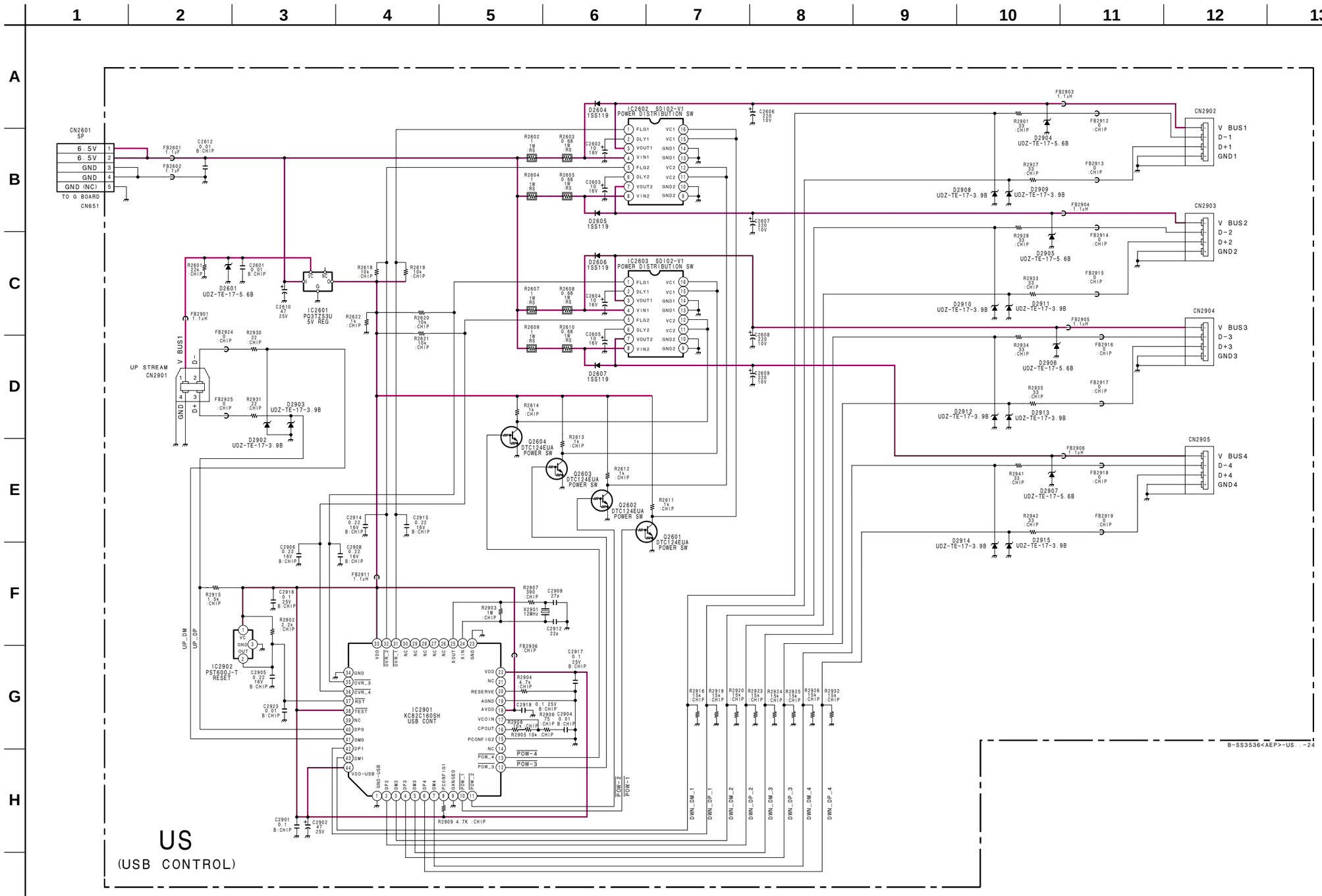
TRANSISTOR		*
Q610	D-2	–
Q611	A-4	①
Q612	A-4	①
Q613	A-4	①
Q620	A-3	–
Q621	A-3	–
Q630	C-3	–
Q631	C-3	–
Q632	D-3	–
Q633	D-3	①
Q652	C-1	①
Q653	C-1	①
Q667	C-1	①
Q671	D-1	①
Q691	D-2	–

DIODE		*
D601	B-3	③
D610	B-4	–
D613	A-4	–
D620	A-4	–
D630	D-2	–
D631	C-2	–
D632	C-3	–
D633	C-3	–
D635	C-3	–
D637	C-3	–
D640	B-3	–
D650	A-1	–
D651	B-2	–
D652	B-1	–
D653	A-1	–
D654	A-1	–
D655	B-2	–
D664	C-1	–
D680	C-2	–
D681	C-1	–
D682	D-1	–
D690	D-3	–
D692	D-4	–

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-12)

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

(6) Schematic Diagram of US Board



- **US BOARD SEMICONDUCTOR LOCATION**

IC	(Conductor Side)	(Component Side)
IC2601		A-1
IC2602		C-1
IC2603		A-1
IC2901		B-1
IC2902	B-1	B-1

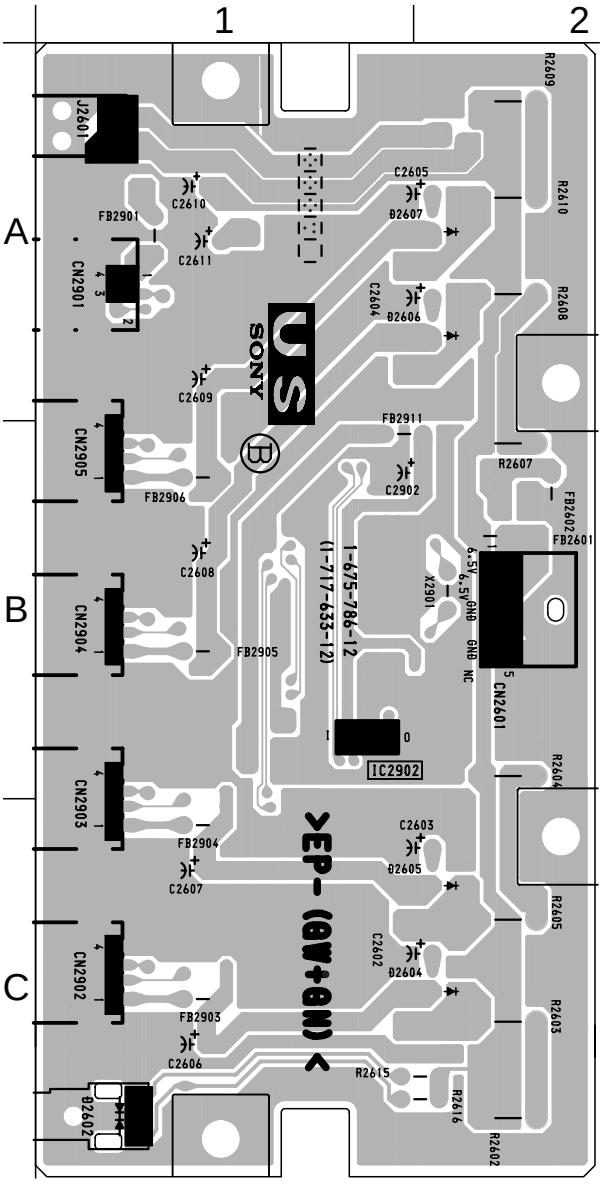
TRANSISTOR	(Conductor Side)	(Component Side)	
Q2601		C-1	②
Q2602		C-1	②
Q2603		A-1	②
Q2604		A-1	②

DIODE	(Conductor Side)	(Component Side)	
D2601		A-2	③
D2604	C-2	C-1	–
D2605	C-2	C-1	–
D2606	A-2	A-1	–
D2607	A-2	A-1	–
D2902		A-1	③
D2903		A-1	③
D2904		C-1	③
D2905		B-1	③
D2906		B-2	③
D2907		B-2	③
D2908		C-2	③
D2909		C-2	③
D2910		B-2	③
D2911		B-2	③
D2912		B-2	③
D2913		B-2	③
D2914		B-2	③
D2915		B-2	③

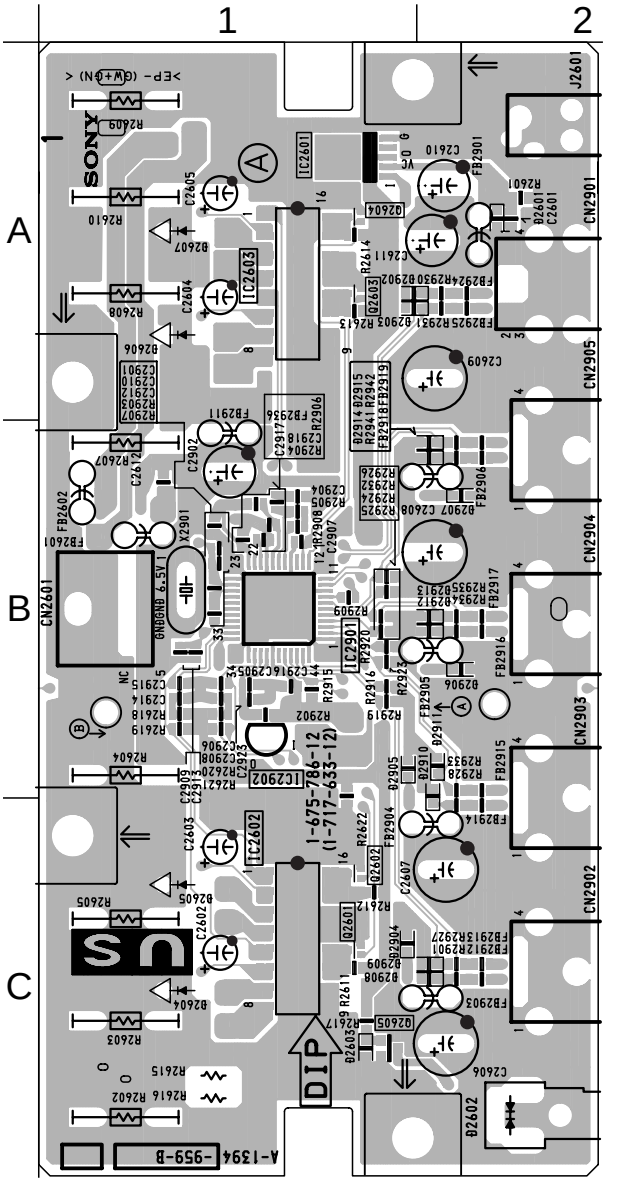
CRYSTAL	(Conductor Side)	(Component)
X2901	B-2	B-1

∗: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-12)

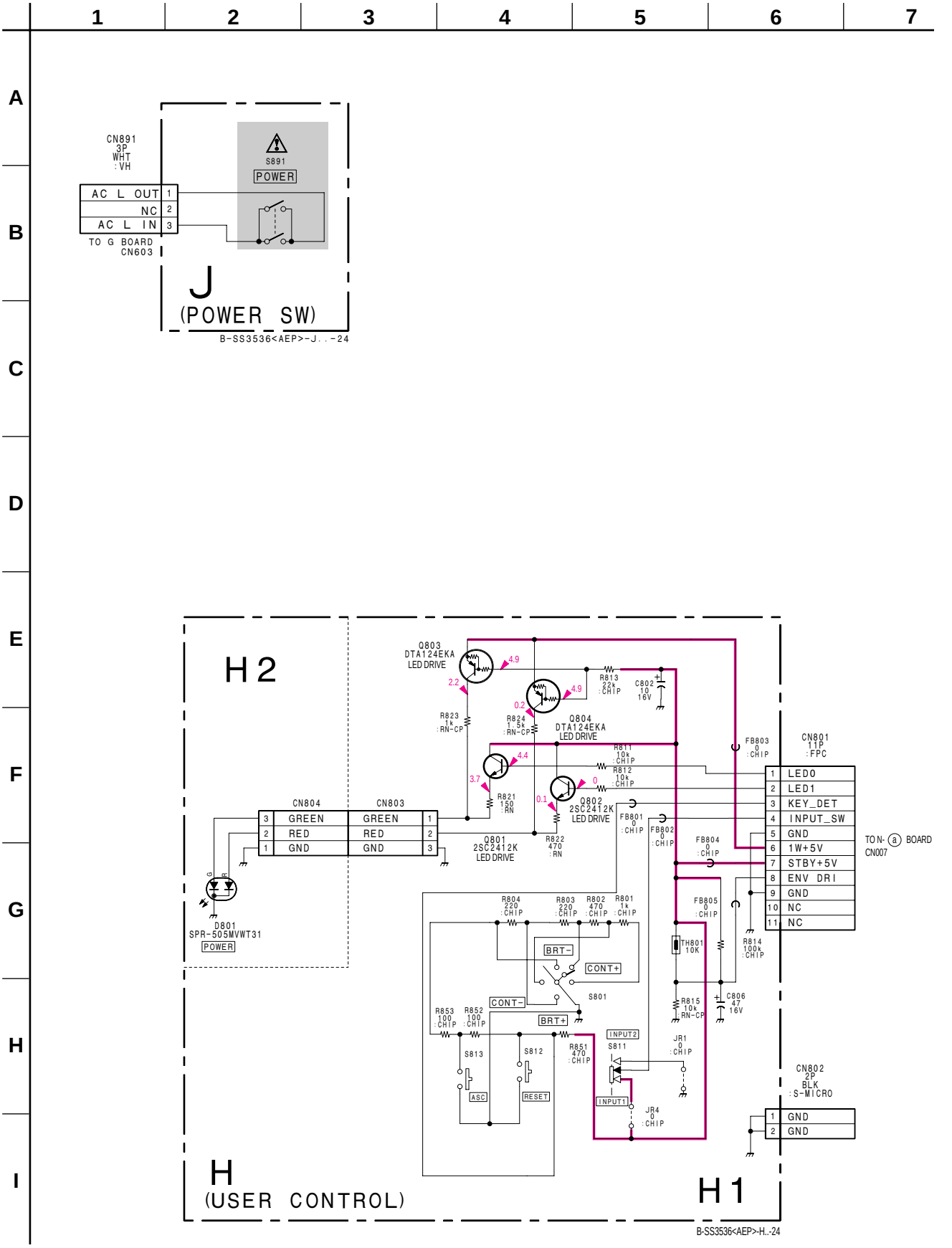
— US BOARD (Conductor Side) —



— US BOARD (Component Side) —

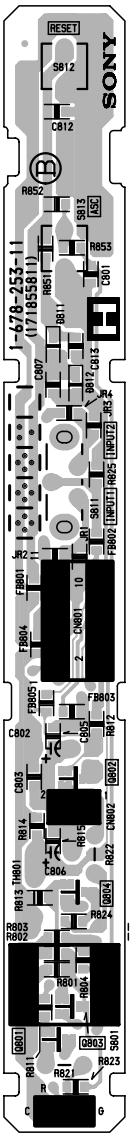


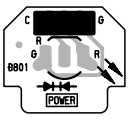
(7) Schematic Diagrams of H and J Boards



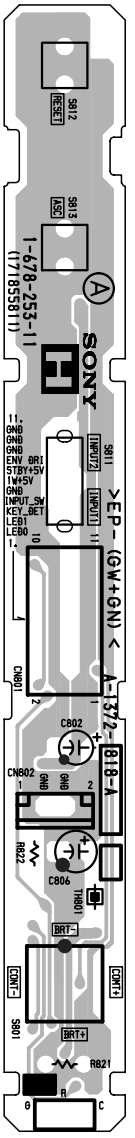
H ［USER CONTROL］ J ［POWER SW］

— H BOARD (Conductor Side) —

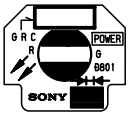




— H BOARD (Component Side) —

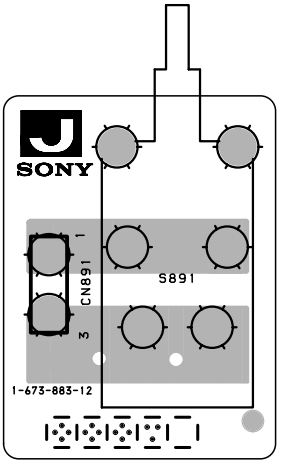


(H1)



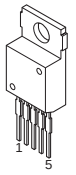
(H2)

— J BOARD —

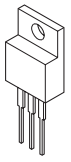


5-5. SEMICONDUCTORS

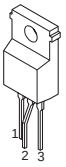
BA00AST-V5
BA05ST-V5
LA6500FA



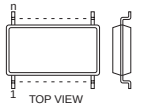
BA033T



BA05T

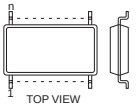


BA10324AF-E2
SN74HC04ANS
SN74HC04ANSR
TC74VHCT74AFT
XRA10324AF



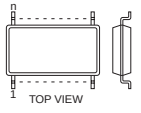
14 pin SOP

BA9758FS-E2



20 pin SOP

BA9759F-E2



18 pin SOP

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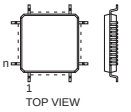

160 pin QFP

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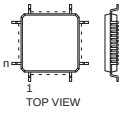
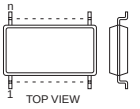


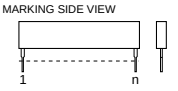
100 pin QFP

CXD9514M



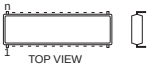
28 pin SOP

DM-57N



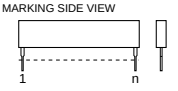
5 pin SIP

FA13842P



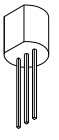
8 pin DIP

FA4301



15 pin SIP

HA17431PA
HA17431PA-TZ



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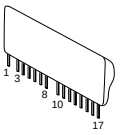

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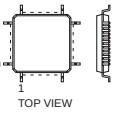
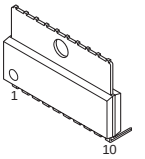
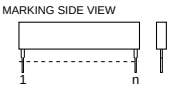


44 pin QFP

LA6510



LA6515
SDK391-220



10 pin SIP

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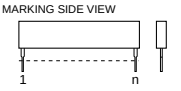

7 pin SIP

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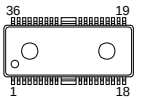

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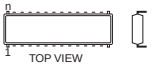

18 pin DIP

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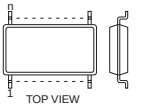
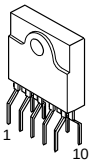


8 pin SOP

MZ1530



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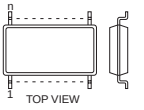

42 pin SOP

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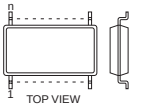

36 pin SOP

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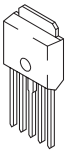

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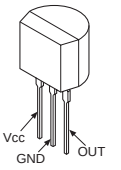

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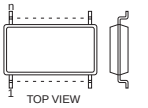

16 pin SOP

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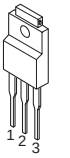

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DTC114GKA
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DTC123EKA-T146
DTC124EK
DTC124EKA-T146
DTC124EUA-T106
2SA1036K-Q
2SA1036K-T-146-Q
2SA1037AK-T146-QR
2SA1037AK-T146-R
2SA1162-G
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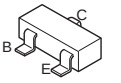

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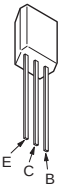

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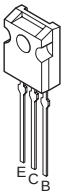

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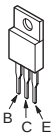

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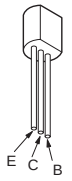

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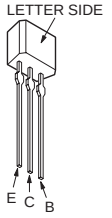

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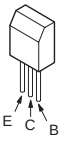

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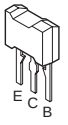

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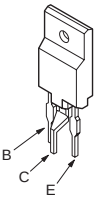

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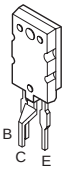

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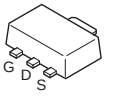

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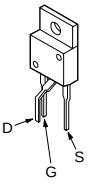

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RD5.6S-B
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UDZ-TE-17-3.3B
UDZ-TE-17-3.9B
UDZ-TE-17-5.6B
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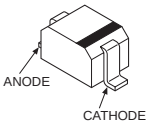

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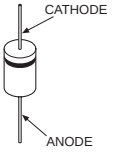

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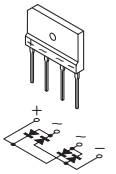

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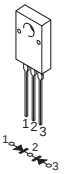

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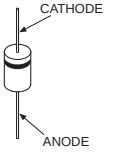

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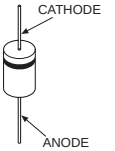

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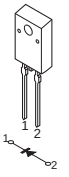

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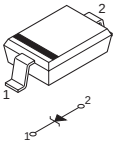

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RD13ES-B2
RD13ES-T1B2
RD20ES-B2
RD20ES-T1B2
RD22ES-B2
RD22ES-T1B2
RD27ES-B2
RD27ES-T1B2
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RD4.7ES-T1B2
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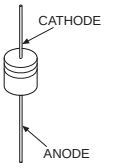

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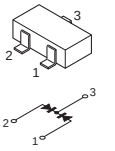

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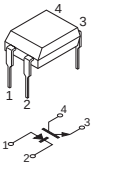

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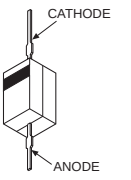
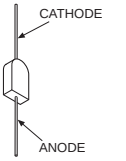


RM11A
RM11C



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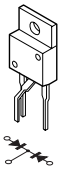
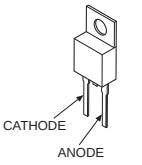
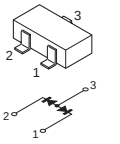


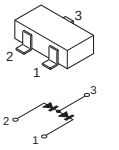
YG911S3R



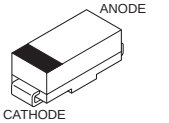
1PS181-115



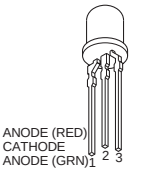
1PS226-115



1SS376TE-17



SPR-505MVWT31



SECTION 6
EXPLODED VIEWS

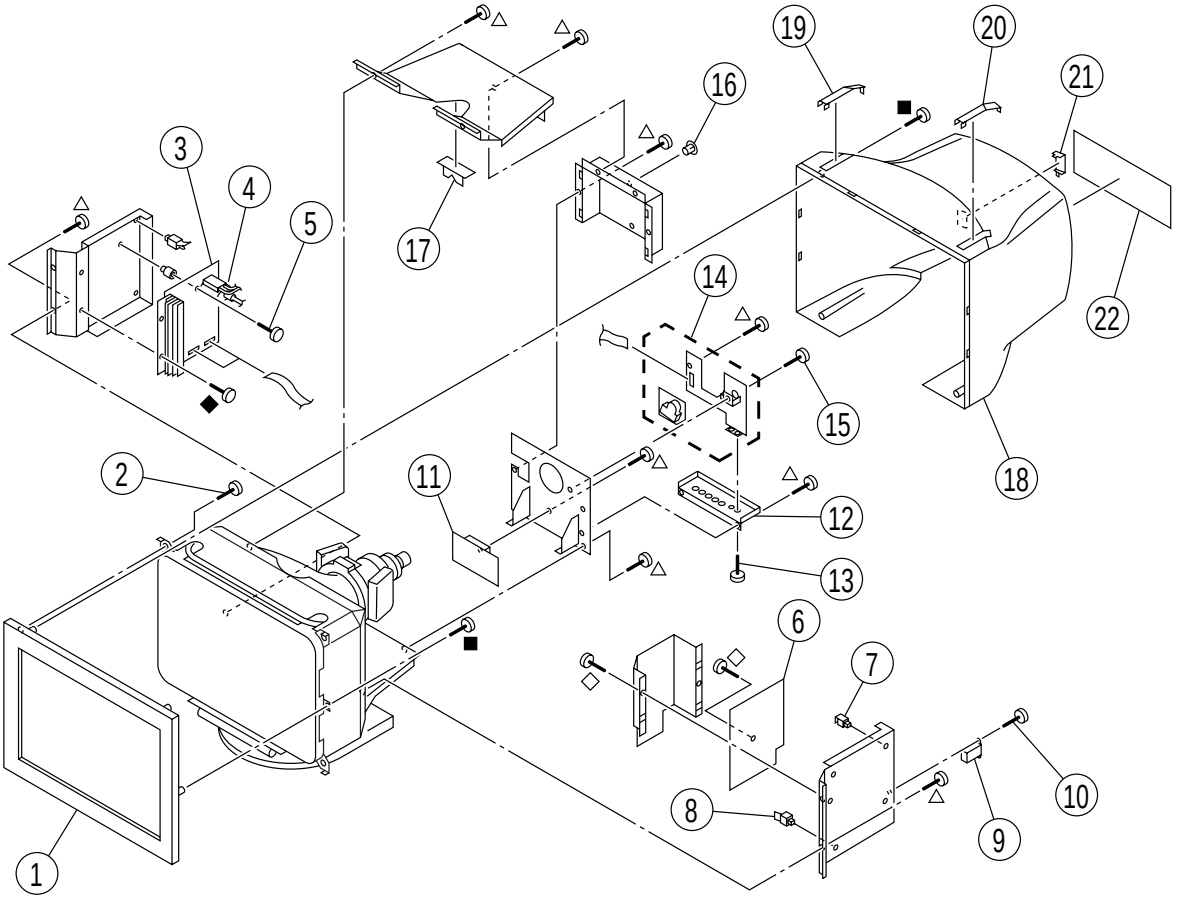
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CHASSIS

△: 7-685-881-09 +BVTT 4x8
◆: 7-685-648-79 +BVTP 3x12
■: 7-685-663-71 +BVTP 4x16
◇: 7-685-646-79 +BVTP 3x8



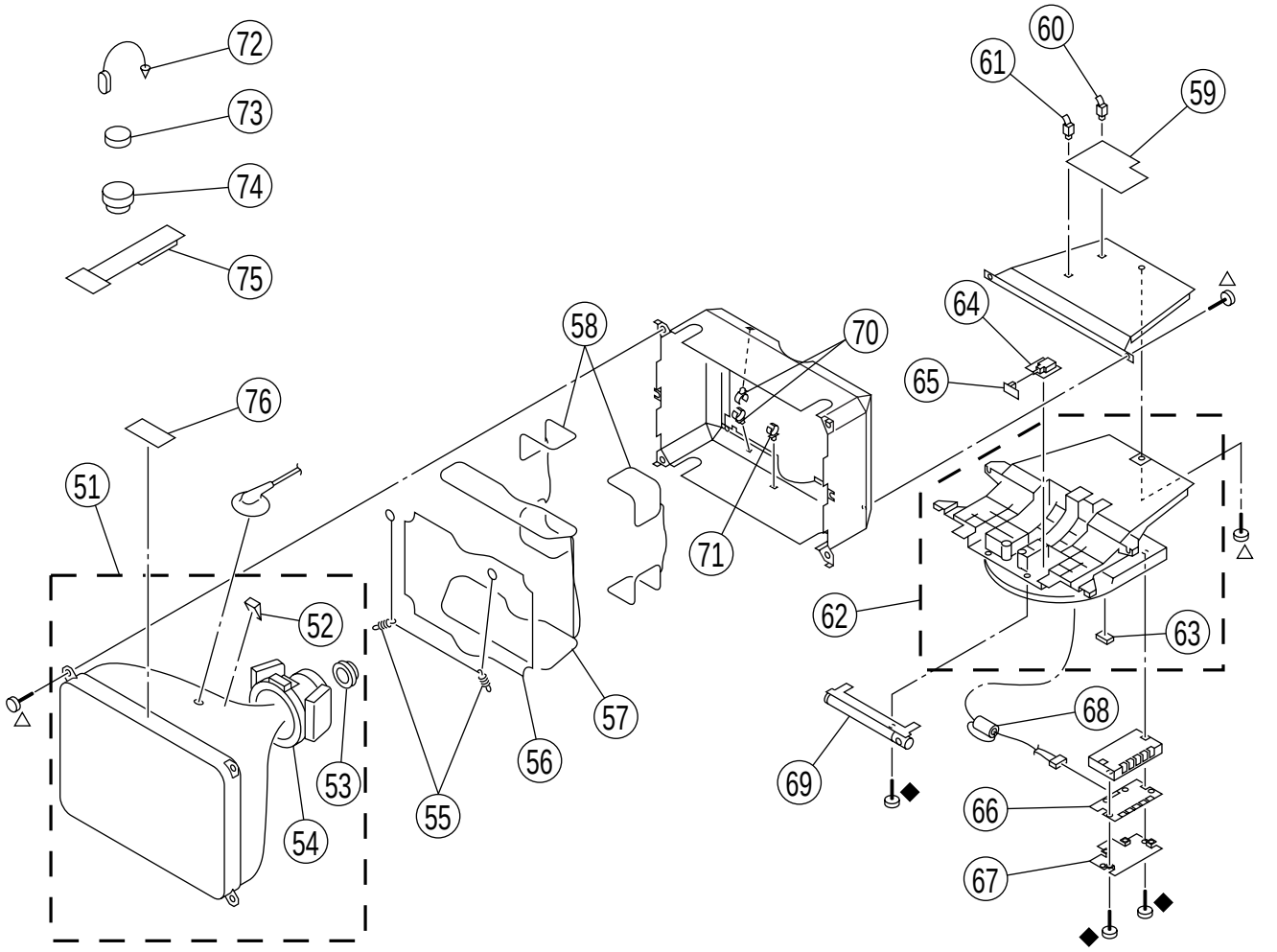
REF.NO.	PART NO.	DESCRIPTION	REMARK
1	4-077-500-01	BEZEL	
2	4-046-765-12	SCREW, TAPPING 7+CROWN WASHER	
3	*8-933-440-00	D BOARD, COMPLETE	4
4	⚠1-453-348-11	TRANSFORMER ASSY, FLYBACK (NX-4504//J1D4)	
5	4-062-115-01	SCREW +P 3.5X20 TYPE2	
6	*8-933-441-00	G BOARD, COMPLETE	
7	*3-701-903-11	HOLDER, PRINTED CIRCUIT BOARD	
8	4-070-730-01	HOLDER, PRINTED CIRCUIT BOARD	
9	⚠1-251-382-31	INLET, AC 3P(WITH NOISE FILTE)	
10	4-052-345-01	SCREW, (3X8) (+K), TAPPING	
11	*8-933-442-00	S BOARD, COMPLETE	
12	1-694-569-11	TERMINAL BOARD ASSY, I/O	
13	4-070-122-01	SCREW (HD15)	
14	*8-933-432-00	A BOARD, COMPLETE	
15	4-389-025-11	SCREW (M4) (EXT TOOTH WASHER)	
16	*4-069-570-01	SPACER, PRINTED CIRCUIT BOARD	
17	*4-063-711-01	SUPPORT, HV CABLE	
18	X-4037-965-1	CABINET ASSY	
19	4-077-514-01	COVER, SCREW (L)	
20	4-077-515-01	COVER, SCREW (R)	
21	4-077-512-01	COVER, ECS	
22	*4-077-463-01	LABEL, INFORMATION	

6-2. PICTURE TUBE

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

△: 7-685-881-09 +BVTT 4x8
◆: 7-685-648-79 +BVTP 3x12

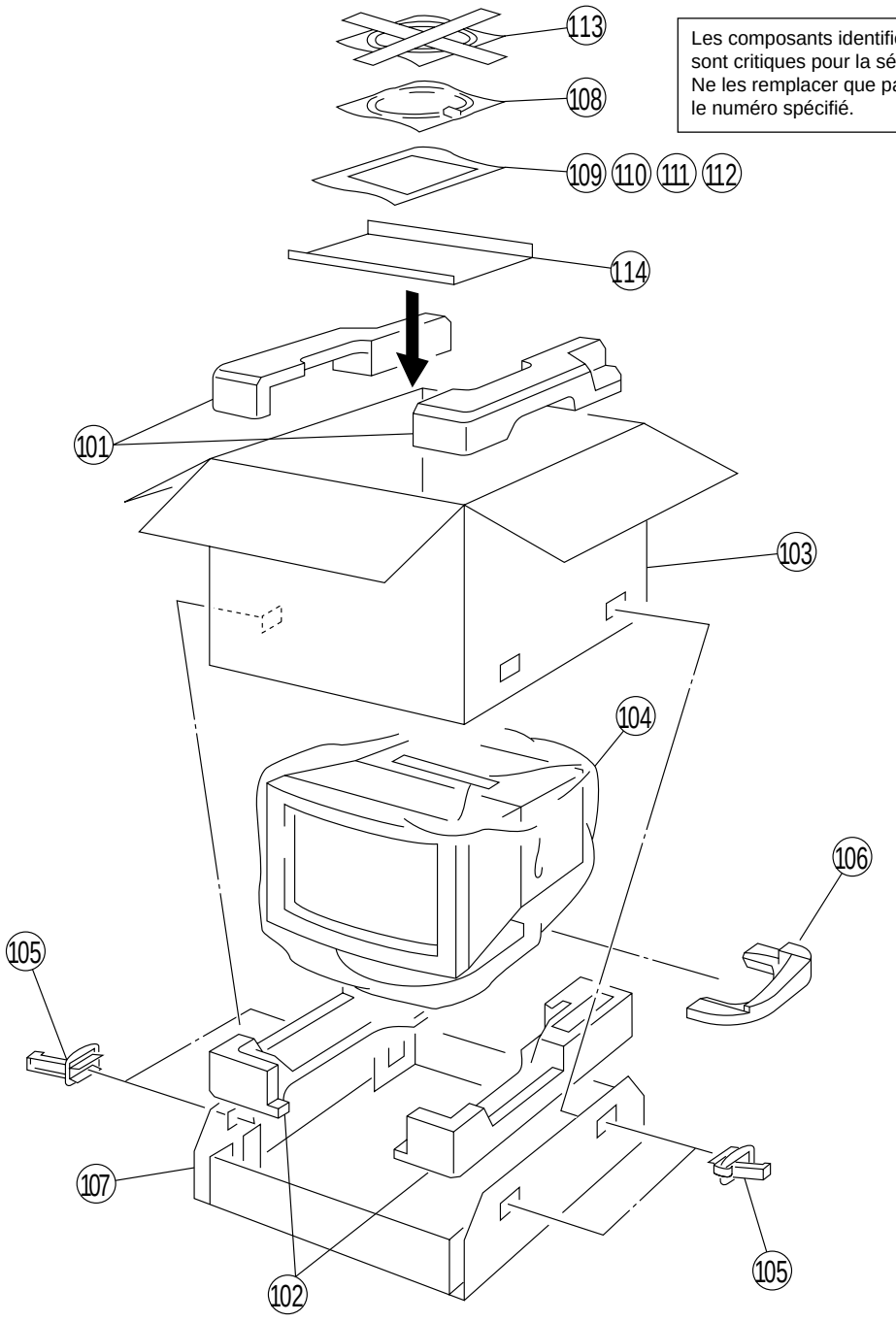


REF.NO.	PART NO.	DESCRIPTION	REMARK
51	⚠ 8-733-007-61	ITC ASSY (24TXF-R1)	52-54
52	2-162-100-21	SPACER, DY	
53	⚠ 1-451-522-11	NECK ASSY (NA-2917)	
54	⚠ 1-451-523-11	DEFLECTION YOKE (Y24TXN-T)	
55	* 4-047-316-01	SPRING, EXTENSION	
56	⚠ 1-419-675-11	COIL, ROTATION	
57	⚠ 1-419-673-11	COIL, DEGAUSSING	
58	⚠ 1-419-674-11	COIL, LANDING CORRECTION	
59	* 8-933-433-00	N BOARD, COMPLETE	
60	4-070-730-01	HOLDER, PRINTED CIRCUIT BOARD	
61	* 4-321-929-00	HOLDER, PC BOARD	
62	X-4037-954-1	STAND ASSY	63
63	* 4-061-996-01	CUSHION	
64	* 8-933-396-00	J BOARD, COMPLETE	
65	* 4-394-972-21	CAP, POWER	
66	* A-1395-007-A	US BOARD, COMPLETE	
67	4-072-376-01	COVER, STAND	
68	* 1-543-830-11	CLAMP, SLEEVE FERRITE	
69	* 8-933-439-00	BLOCK ASSY, CONTROL (H BOARD)	
70	4-041-021-02	HOLDER, DEGAUSE COIL	
71	4-071-175-01	HOLDER, DGC	
72	4-308-870-00	CLIP, LEAD WIRE	
73	1-452-032-00	MAGNET, DISK; 10mmϕ	
74	1-452-094-00	MAGNET, ROTATABLE DISK; 15mmϕ	
75	4-051-736-21	PIECE A(90), CONV. CORRECT	
76	4-036-700-01	SHEET, PROTECTION	

6-3. PACKING MATERIALS

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.



REF.NO.	PART NO.	DESCRIPTION	REMARK
101	*4-076-657-01	CUSHION (UPPER) (ASSY)	
102	*4-076-658-01	CUSHION (LOWER) (ASSY)	
103	*4-076-656-01	INDIVIDUAL CARTON	
104	*4-030-594-11	BAG, PROTECTION	
105	*4-396-077-01	JOINT	
106	*4-077-239-01	TILT PAD	
107	*4-055-439-01	TRAY	
108	1-793-504-11	CABLE ASSY(15PDSUBX2CONNECTOR)	
109	4-077-465-11	MANUAL, INSTRUCTION	
110	⚠1-782-783-21	CORD SET, POWER [U/C]	
110	⚠1-782-784-31	CORD SET, POWER [AEP]	
111	1-785-512-31	CONNECTOR, D SUB (15P CHANGER)	
112	1-790-081-21	CABLE, USB	
113	*1-696-619-21	CABLE (HD15-5BNC)	
114	*4-079-151-01	SHEET	

SECTION 7
ELECTRICAL PARTS LIST

J N

NOTE:

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

RESISTORS
- All resistors are in ohms
- F : nonflammable

REF.NO.	PART NO.	DESCRIPTION			REMARK
	*8-933-396-00	J BOARD, COMPLETE			
		**********			
		<CONNECTOR>			
CN891	*1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P			
		<SWITCH>			
S891	⚠ 1-771-727-11	SWITCH, AC POWER PUSH			
**********					
	*8-933-433-00	N BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C001	1-163-009-11	CERAMIC CHIP	0.001UF	10.00% 50V	
C002	1-163-009-11	CERAMIC CHIP	0.001UF	10.00% 50V	
C003	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C005	1-163-255-11	CERAMIC CHIP	150PF	5.00% 50V	
C006	1-163-235-11	CERAMIC CHIP	22PF	5.00% 50V	
C007	1-163-235-11	CERAMIC CHIP	22PF	5.00% 50V	
C008	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V	
C011	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V	
C012	1-126-967-11	ELECT	47UF	20.00% 50V	
C013	1-126-965-11	ELECT	22UF	20.00% 50V	
C014	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C015	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C016	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C017	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C018	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C019	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C020	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C021	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C022	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C023	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C024	1-163-009-11	CERAMIC CHIP	0.001UF	10.00% 50V	
C025	1-163-009-11	CERAMIC CHIP	0.001UF	10.00% 50V	
C026	1-104-665-11	ELECT	100UF	20.00% 25V	
C027	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V	
C028	1-163-220-11	CERAMIC CHIP	3PF	0.25PF 50V	
C029	1-163-241-11	CERAMIC CHIP	39PF	5.00% 50V	
C031	1-126-964-11	ELECT	10UF	20.00% 50V	
C033	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C036	1-163-037-11	CERAMIC CHIP	0.022UF	10.00% 50V	
C037	1-126-964-11	ELECT	10UF	20.00% 50V	
C038	1-126-964-11	ELECT	10UF	20.00% 50V	
C039	1-126-964-11	ELECT	10UF	20.00% 50V	
C040	1-126-964-11	ELECT	10UF	20.00% 50V	
C041	1-126-964-11	ELECT	10UF	20.00% 50V	
C042	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C043	1-126-965-11	ELECT	22UF	20.00% 50V	
C044	1-163-037-11	CERAMIC CHIP	0.022UF	10.00% 50V	
C045	1-163-037-11	CERAMIC CHIP	0.022UF	10.00% 50V	
C046	1-163-037-11	CERAMIC CHIP	0.022UF	10.00% 50V	
C047	1-163-037-11	CERAMIC CHIP	0.022UF	10.00% 50V	
C048	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C049	1-126-964-11	ELECT	10UF	20.00% 50V	
C050	1-126-964-11	ELECT	10UF	20.00% 50V	
C051	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C052	1-126-933-11	ELECT	100UF	20.00% 16V	
C053	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C054	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V	
C055	1-104-664-11	ELECT	47UF	20.00% 25V	
C056	1-126-965-11	ELECT	22UF	20.00% 50V	
C057	1-126-964-11	ELECT	10UF	20.00% 50V	
C058	1-164-690-91	CERAMIC CHIP	0.0022UF	5.00% 50V	
C059	1-126-964-11	ELECT	10UF	20.00% 50V	
C061	1-163-021-91	CERAMIC CHIP	0.01UF	10.00% 50V	
C062	1-104-665-11	ELECT	100UF	20.00% 25V	
C063	1-164-690-91	CERAMIC CHIP	0.0022UF	5.00% 50V	
C064	1-115-419-11	CERAMIC CHIP	3300PF	5.00% 25V	
C065	1-126-960-11	ELECT	1UF	20.00% 50V	
C066	1-164-690-91	CERAMIC CHIP	0.0022UF	5.00% 50V	
C067	1-164-004-11	CERAMIC CHIP	0.1UF	10.00% 25V	
C068	1-136-169-00	MYLAR	0.22UF	5.00% 50V	
C069	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V	
C070	1-126-767-11	ELECT	1000UF	20.00% 16V	
C071	1-163-007-11	CERAMIC CHIP	680PF	10.00% 50V	
C072	1-126-942-61	ELECT	1000UF	20.00% 25V	
C073	1-115-339-11	CERAMIC CHIP	0.1UF	10.00% 50V	

N

REF.NO.	PART NO.	DESCRIPTION			REMARK
C074	1-163-137-00	CERAMIC CHIP	680PF	5.00%	50V
C075	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C077	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C078	1-136-169-00	MYLAR	0.22UF	5.00%	50V
C079	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C080	1-126-967-11	ELECT	47UF	20.00%	50V
C082	1-104-664-11	ELECT	47UF	20.00%	25V
C083	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C084	1-126-964-11	ELECT	10UF	20.00%	50V
C085	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C086	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C087	1-126-964-11	ELECT	10UF	20.00%	50V
C089	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C090	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C091	1-126-933-11	ELECT	100UF	20.00%	16V
C093	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C094	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C095	1-117-722-11	ELECT	2200UF	20.00%	10V
C096	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C097	1-126-964-11	ELECT	10UF	20.00%	50V
C098	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C099	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C1003	1-104-664-11	ELECT	47UF	20.00%	25V
C1004	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C1005	1-163-005-11	CERAMIC CHIP	470PF	10.00%	50V
C1006	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C1008	1-163-085-00	CERAMIC CHIP	2PF	0.25PF	50V
C1009	1-163-087-00	CERAMIC CHIP	4PF	0.25PF	50V
C5002	1-126-964-11	ELECT	10UF	20.00%	50V
C5003	1-126-933-11	ELECT	100UF	20.00%	16V
C5004	1-104-664-11	ELECT	47UF	20.00%	25V
C5005	1-104-664-11	ELECT	47UF	20.00%	25V
C5008	1-104-664-11	ELECT	47UF	20.00%	25V
C5009	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5101	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5103	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5105	1-104-664-11	ELECT	47UF	20.00%	25V
C5106	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5108	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5110	1-104-664-11	ELECT	47UF	20.00%	25V
C5203	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5205	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5206	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5301	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5303	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5304	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5305	1-104-664-11	ELECT	47UF	20.00%	25V
C5306	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5308	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5310	1-104-664-11	ELECT	47UF	20.00%	25V
C5401	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5403	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5404	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5406	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5408	1-163-005-11	CERAMIC CHIP	470PF	10.00%	50V
C5409	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5413	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C5501	1-126-967-11	ELECT	47UF	20.00%	50V
C5602	1-115-339-11	CERAMIC CHIP	0.1UF	10.00%	50V
C5606	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C5607	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

<CONNECTOR>

CN001	1-784-500-11	CONNECTOR, FFC/FPC 21P	
CN002*	1-564-511-11	PLUG, CONNECTOR 8P	
CN003	1-784-488-11	CONNECTOR, FFC/FPC 9P	
CN007	1-784-490-11	CONNECTOR, FFC/FPC 11P	
CN010	1-784-786-11	CONNECTOR, FFC 25P	
CN011	1-784-786-11	CONNECTOR, FFC 25P	
CN5001*	1-564-509-11	PLUG, CONNECTOR 6P	
CN5002*	1-564-511-11	PLUG, CONNECTOR 8P	
CN5003*	1-564-505-11	PLUG, CONNECTOR 2P	

<DIODE>

D001	8-719-062-51	DIODE 1PS226-115
D002	8-719-062-51	DIODE 1PS226-115
D003	8-719-062-51	DIODE 1PS226-115
D004	8-719-062-51	DIODE 1PS226-115
D008	8-719-109-89	ZENER DIODE RD5.6ESB2
D009	8-719-109-89	ZENER DIODE RD5.6ESB2
D010	8-719-109-89	ZENER DIODE RD5.6ESB2
D012	8-719-109-89	ZENER DIODE RD5.6ESB2
D013	8-719-110-17	ZENER DIODE RD10ESB2
D015	8-719-801-78	DIODE 1SS184
D016	8-719-109-89	ZENER DIODE RD5.6ESB2
D017	8-719-109-89	ZENER DIODE RD5.6ESB2
D018	8-719-109-89	ZENER DIODE RD5.6ESB2
D020	8-719-988-61	DIODE 1SS355TE-17
D021	8-719-988-61	DIODE 1SS355TE-17
D022	8-719-801-78	DIODE 1SS184
D023	8-719-801-78	DIODE 1SS184
D024	8-719-801-78	DIODE 1SS184
D025	8-719-062-51	DIODE 1PS226-115
D026	8-719-062-51	DIODE 1PS226-115
D027	8-719-988-61	DIODE 1SS355TE-17
D028	8-719-988-61	DIODE 1SS355TE-17
D029	8-719-109-85	ZENER DIODE RD5.1ESB2
D036	8-719-109-89	ZENER DIODE RD5.6ESB2
D037	8-719-109-89	ZENER DIODE RD5.6ESB2
D038	8-719-045-99	ZENER DIODE RD2.2M-T1B

<FERRITE BEAD>

FB001	1-410-397-21	FERRITE	1.1UH
FB002	1-410-397-21	FERRITE	1.1UH
FB003	1-410-397-21	FERRITE	1.1UH
FB5101	1-412-911-11	FERRITE	1.1UH
FB5103	1-412-911-11	FERRITE	1.1UH
FB5201	1-412-911-11	FERRITE	1.1UH
FB5301	1-412-911-11	FERRITE	1.1UH

REF.NO.	PART NO.	DESCRIPTION			REMARK
FB5303	1-412-911-11	FERRITE	1.1UH		
FB5401	1-412-911-11	FERRITE	1.1UH		
FB5403	1-412-911-11	FERRITE	1.1UH		
FB5601	1-412-911-11	FERRITE	1.1UH		
		<SENSOR>			
GS5001	1-418-473-11	SENSOR UNIT, GEOWAGNETIC			
		<IC>			
IC001	8-759-686-06	IC CXD-9155Q-0010			
IC002	8-759-162-80	IC MM1170BFB			
IC003	8-759-527-77	IC M24C16-MN6T			
IC004	8-759-491-55	IC TC74VHCT74AFT(EL)			
IC005	8-759-491-55	IC TC74VHCT74AFT(EL)			
IC006	8-759-700-78	IC NJM082M			
IC010	8-759-585-70	IC LA7865M-TLM			
IC011	8-759-661-55	IC ST24FC21M6TR			
IC5101	8-759-822-38	IC LA6510			
IC5201	8-759-822-07	IC LA6515			
IC5301	8-759-822-38	IC LA6510			
IC5401	8-759-822-07	IC LA6515			
		<COIL>			
L002	1-406-665-11	INDUCTOR 100UH			
L003	1-406-671-11	INDUCTOR 1MH			
		<TRANSISTOR>			
Q001	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q002	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q003	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q004	8-729-028-83	TRANSISTOR DTA124EUA-T106			
Q005	8-729-033-26	TRANSISTOR DTA114GKAT146			
Q006	8-729-027-49	TRANSISTOR DTC123EKA-T146			
Q007	8-729-901-00	TRANSISTOR DTC124EK			
Q008	8-729-033-25	TRANSISTOR DTC114GKA			
Q009	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q010	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q011	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q012	8-729-901-00	TRANSISTOR DTC124EK			
		<RESISTOR>			
R003	1-216-025-91	RES-CHIP	100	5%	1/10W
R004	1-216-025-91	RES-CHIP	100	5%	1/10W
R005	1-216-025-91	RES-CHIP	100	5%	1/10W
R006	1-216-025-91	RES-CHIP	100	5%	1/10W
R007	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R008	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R009	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R010	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R014	1-216-049-91	RES-CHIP	1K	5%	1/10W
R015	1-249-389-11	CARBON	4.7	5%	1/4W
R016	1-216-017-91	RES-CHIP	47	5%	1/10W
R017	1-216-017-91	RES-CHIP	47	5%	1/10W
R018	1-216-049-91	RES-CHIP	1K	5%	1/10W
R019	1-216-025-91	RES-CHIP	100	5%	1/10W
R020	1-216-025-91	RES-CHIP	100	5%	1/10W
R021	1-216-025-91	RES-CHIP	100	5%	1/10W
R022	1-216-025-91	RES-CHIP	100	5%	1/10W
R023	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R024	1-216-025-91	RES-CHIP	100	5%	1/10W
R025	1-216-025-91	RES-CHIP	100	5%	1/10W
R026	1-216-025-91	RES-CHIP	100	5%	1/10W
R029	1-216-073-00	RES-CHIP	10K	5%	1/10W
R030	1-216-049-91	RES-CHIP	1K	5%	1/10W
R031	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R032	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R034	1-216-049-91	RES-CHIP	1K	5%	1/10W
R035	1-216-073-00	RES-CHIP	10K	5%	1/10W
R036	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R037	1-216-073-00	RES-CHIP	10K	5%	1/10W
R039	1-216-025-91	RES-CHIP	100	5%	1/10W
R040	1-216-025-91	RES-CHIP	100	5%	1/10W
R042	1-216-073-00	RES-CHIP	10K	5%	1/10W
R043	1-216-049-91	RES-CHIP	1K	5%	1/10W
R044	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W
R045	1-216-049-91	RES-CHIP	1K	5%	1/10W
R046	1-216-073-00	RES-CHIP	10K	5%	1/10W
R047	1-216-049-91	RES-CHIP	1K	5%	1/10W
R048	1-216-049-91	RES-CHIP	1K	5%	1/10W
R049	1-216-073-00	RES-CHIP	10K	5%	1/10W
R053	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R054	1-216-077-91	RES-CHIP	15K	5%	1/10W
R055	1-216-077-91	RES-CHIP	15K	5%	1/10W
R056	1-216-073-00	RES-CHIP	10K	5%	1/10W
R057	1-216-073-00	RES-CHIP	10K	5%	1/10W
R058	1-216-067-00	RES-CHIP	5.6K	5%	1/10W
R059	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R060	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R061	1-216-049-91	RES-CHIP	1K	5%	1/10W
R062	1-216-613-11	METAL CHIP	27	0.50%	1/10W
R063	1-216-613-11	METAL CHIP	27	0.50%	1/10W
R064	1-216-613-11	METAL CHIP	27	0.50%	1/10W
R066	1-216-049-91	RES-CHIP	1K	5%	1/10W
R067	1-216-073-00	RES-CHIP	10K	5%	1/10W
R068	1-216-295-91	SHORT	0		
R069	1-216-295-91	SHORT	0		
R070	1-216-295-91	SHORT	0		
R071	1-216-295-91	SHORT	0		
R072	1-216-295-91	SHORT	0		
R073	1-216-295-91	SHORT	0		
R074	1-216-295-91	SHORT	0		
R075	1-215-407-00	METAL	270	1%	1/4W
R076	1-215-407-00	METAL	270	1%	1/4W
R078	1-216-121-91	RES-CHIP	1M	5%	1/10W
R079	1-216-295-91	SHORT	0		
R080	1-216-295-91	SHORT	0		
R081	1-216-049-91	RES-CHIP	1K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R082	1-216-049-91	RES-CHIP	1K	5%	1/10W
R084	1-216-073-00	RES-CHIP	10K	5%	1/10W
R085	1-216-049-91	RES-CHIP	1K	5%	1/10W
R086	1-216-049-91	RES-CHIP	1K	5%	1/10W
R090	1-216-073-00	RES-CHIP	10K	5%	1/10W
R091	1-216-049-91	RES-CHIP	1K	5%	1/10W
R092	1-216-049-91	RES-CHIP	1K	5%	1/10W
R093	1-216-049-91	RES-CHIP	1K	5%	1/10W
R094	1-216-049-91	RES-CHIP	1K	5%	1/10W
R095	1-216-049-91	RES-CHIP	1K	5%	1/10W
R096	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R097	1-216-073-00	RES-CHIP	10K	5%	1/10W
R098	1-216-073-00	RES-CHIP	10K	5%	1/10W
R099	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1001	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1002	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1003	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1004	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1005	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1006	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1007	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1008	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1009	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1010	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1011	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1012	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1013	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1014	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1015	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1016	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1017	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1018	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1019	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1020	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1021	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1022	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R1023	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R1024	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R1025	1-216-025-91	RES-CHIP	100	5%	1/10W
R1026	1-216-109-00	RES-CHIP	330K	5%	1/10W
R1027	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R1028	1-216-647-11	METAL CHIP	680	0.50%	1/10W
R1029	1-216-025-91	RES-CHIP	100	5%	1/10W
R1030	1-216-025-91	RES-CHIP	100	5%	1/10W
R1031	1-216-025-91	RES-CHIP	100	5%	1/10W
R1032	1-216-025-91	RES-CHIP	100	5%	1/10W
R1033	1-216-025-91	RES-CHIP	100	5%	1/10W
R1034	1-216-025-91	RES-CHIP	100	5%	1/10W
R1035	1-216-025-91	RES-CHIP	100	5%	1/10W
R1036	1-216-025-91	RES-CHIP	100	5%	1/10W
R1037	1-216-025-91	RES-CHIP	100	5%	1/10W
R1038	1-216-025-91	RES-CHIP	100	5%	1/10W
R1039	1-216-025-91	RES-CHIP	100	5%	1/10W
R1040	1-216-025-91	RES-CHIP	100	5%	1/10W
R1041	1-216-025-91	RES-CHIP	100	5%	1/10W
R1042	1-216-025-91	RES-CHIP	100	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1043	1-216-025-91	RES-CHIP	100	5%	1/10W
R1044	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1045	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1046	1-216-025-91	RES-CHIP	100	5%	1/10W
R1047	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1049	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1050	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1051	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1052	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1053	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1054	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1055	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1056	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1057	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1058	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1059	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1060	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1061	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1062	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1063	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R1064	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1065	1-216-117-00	RES-CHIP	680K	5%	1/10W
R1066	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1067	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1068	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1069	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1070	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R1071	1-216-081-00	RES-CHIP	22K	5%	1/10W
R1075	1-216-295-91	SHORT	0		
R1076	1-216-295-91	SHORT	0		
R1077	1-216-025-91	RES-CHIP	100	5%	1/10W
R5003	1-216-295-91	SHORT	0		
R5005	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5006	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5007	1-216-049-91	RES-CHIP	1K	5%	1/10W
R5010	1-216-295-91	SHORT	0		
R5011	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5015	1-216-049-91	RES-CHIP	1K	5%	1/10W
R5108	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5109	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5110	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5113	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5115	1-215-859-00	METAL OXIDE	22	5%	1W
R5116	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5119	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5122	1-215-859-00	METAL OXIDE	22	5%	1W
R5205	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5206	1-215-859-00	METAL OXIDE	22	5%	1W
R5207	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5208	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R5209	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5308	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5309	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5310	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5313	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5315	1-215-859-00	METAL OXIDE	22	5%	1W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R5316	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5319	1-216-073-00	RES-CHIP	10K	5%	1/10W
R5322	1-215-859-00	METAL OXIDE	22	5%	1W
R5406	1-216-083-00	RES-CHIP	27K	5%	1/10W
R5407	1-216-085-00	RES-CHIP	33K	5%	1/10W
R5408	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5409	1-216-308-00	RES-CHIP	4.7	5%	1/10W
R5410	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5413	1-216-097-91	RES-CHIP	100K	5%	1/10W
R5415	1-215-887-00	METAL OXIDE	150	5%	2W
R5416	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5419	1-216-097-91	RES-CHIP	100K	5%	1/10W
R5422	1-216-451-11	METAL OXIDE	120	5%	2W
R5502	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5503	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5504	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5505	1-216-089-91	RES-CHIP	47K	5%	1/10W
R5506	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R5507	1-249-382-11	CARBON	1.2	5%	1/4W
R5508	1-249-382-11	CARBON	1.2	5%	1/4W
R5509	1-249-382-11	CARBON	1.2	5%	1/4W
R5510	1-249-382-11	CARBON	1.2	5%	1/4W
R5602	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5603	1-216-077-91	RES-CHIP	15K	5%	1/10W
R5604	1-216-081-00	RES-CHIP	22K	5%	1/10W
R5605	1-216-097-91	RES-CHIP	100K	5%	1/10W
R5607	1-215-862-11	METAL OXIDE	68	5%	1W
R5610	1-216-308-00	RES-CHIP	4.7	5%	1/10W

<CRYSTAL>

X001	1-760-682-21	VIBRATOR, CRYSTAL (24.756MHz)	

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*	8-933-442-00	S BOARD, COMPLETE
		**********
	4-077-446-01	HEAT SINK (S1) (IC3002, IC3003)
*	4-381-906-01	SPRING (F) (IC3002, IC3003)

<CAPACITOR>

C3001	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3002	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3003	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3004	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3005	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3006	1-126-964-11	ELECT	10UF	20.00%	50V
C3007	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3008	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3009	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3010	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3011	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3012	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3013	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3014	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3015	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3016	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3017	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3018	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3019	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3020	1-126-964-11	ELECT	10UF	20.00%	50V
C3021	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3022	1-126-960-11	ELECT	1UF	20.00%	50V
C3023	1-126-964-11	ELECT	10UF	20.00%	50V
C3024	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3025	1-126-960-11	ELECT	1UF	20.00%	50V
C3026	1-126-964-11	ELECT	10UF	20.00%	50V
C3027	1-126-964-11	ELECT	10UF	20.00%	50V
C3028	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3029	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3030	1-126-964-11	ELECT	10UF	20.00%	50V
C3031	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3032	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3033	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3034	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3035	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3036	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3037	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3038	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3039	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3040	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3041	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3042	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3043	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3044	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3045	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3046	1-126-964-11	ELECT	10UF	20.00%	50V
C3047	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3048	1-126-964-11	ELECT	10UF	20.00%	50V
C3049	1-126-964-11	ELECT	10UF	20.00%	50V
C3050	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3051	1-126-964-11	ELECT	10UF	20.00%	50V
C3052	1-126-963-11	ELECT	4.7UF	20.00%	50V
C3053	1-163-037-11	CERAMIC CHIP	0.022UF	10.00%	50V
C3056	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C3057	1-126-964-11	ELECT	10UF	20.00%	50V
C3058	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C3062	1-126-942-61	ELECT	1000UF	20.00%	25V
C3063	1-126-942-61	ELECT	1000UF	20.00%	25V
C3064	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C3065	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C3066	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C3067	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C3068	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C3069	1-137-378-11	MYLAR	0.22UF	5.00%	50V
C3070	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C3071	1-137-378-11	MYLAR	0.22UF	5.00%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C3072	1-107-823-11	CERAMIC CHIP 0.47UF	10.00%	16V	
C3074	1-163-021-91	CERAMIC CHIP 0.01UF	10.00%	50V	
C3075	1-164-004-11	CERAMIC CHIP 0.1UF	10.00%	25V	
C3076	1-164-004-11	CERAMIC CHIP 0.1UF	10.00%	25V	
C3078	1-163-021-91	CERAMIC CHIP 0.01UF	10.00%	50V	
C3079	1-164-004-11	CERAMIC CHIP 0.1UF	10.00%	25V	
C3080	1-164-004-11	CERAMIC CHIP 0.1UF	10.00%	25V	
C3081	1-127-820-91	CERAMIC 4.7UF		16V	
C3082	1-164-004-11	CERAMIC CHIP 0.1UF	10.00%	25V	
		<CONNECTOR>			
CN3001	1-784-451-11	CONNECTOR, FFC/FPC 9P			
CN3002*	1-564-523-11	PLUG, CONNECTOR 8P			
CN3003*	1-564-518-11	PLUG, CONNECTOR 3P			
		<DIODE>			
D3001	8-719-073-01	DIODE MA111-(K8.)S0			
D3003	8-719-978-04	ZENER DIODE DTZ-TT11-3.3B			
D3004	8-719-978-04	ZENER DIODE DTZ-TT11-3.3B			
		<IC>			
IC3001	8-759-586-18	IC CXD9510Q			
IC3002	8-749-017-48	IC STK391-220			
IC3003	8-749-017-48	IC STK391-220			
IC3004	8-759-445-59	IC BA033T			
IC3005	8-759-527-77	IC M24C16-MN6T			
IC3006	8-759-352-91	IC PST9143NL			
		<TRANSISTOR>			
Q3001	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q3002	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3003	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R			
Q3004	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q3005	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		<RESISTOR>			
R3001	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R3002	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3003	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3004	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R3005	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3006	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3007	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R3008	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3009	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3010	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R3011	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3012	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R3013	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3014	1-216-073-00	RES-CHIP	10K	5%	1/10W
R3015	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3016	1-216-295-91	SHORT	0		
R3017	1-216-025-91	RES-CHIP	100	5%	1/10W
R3018	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3019	1-216-295-91	SHORT	0		
R3020	1-216-025-91	RES-CHIP	100	5%	1/10W
R3021	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3022	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3023	1-216-049-91	RES-CHIP	1K	5%	1/10W
R3024	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3025	1-216-049-91	RES-CHIP	1K	5%	1/10W
R3026	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3027	1-216-049-91	RES-CHIP	1K	5%	1/10W
R3028	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R3029	1-216-025-91	RES-CHIP	100	5%	1/10W
R3030	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R3031	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3032	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R3033	1-249-409-11	CARBON	220	5%	1/4W
R3034	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W
R3035	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3038	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3039	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3040	1-216-295-91	SHORT	0		
R3042	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3044	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3045	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3046	1-216-073-00	RES-CHIP	10K	5%	1/10W
R3047	1-216-386-11	METAL OXIDE	0.56	5%	3W
R3048	1-216-387-11	METAL OXIDE	0.68	5%	3W
R3049	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3050	1-216-475-11	METAL OXIDE	120	5%	3W
R3051	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3052	1-216-475-11	METAL OXIDE	120	5%	3W
R3053	1-216-386-11	METAL OXIDE	0.56	5%	3W
R3054	1-216-387-11	METAL OXIDE	0.68	5%	3W
R3055	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3056	1-216-474-11	METAL OXIDE	82	5%	3W
R3057	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R3058	1-216-475-11	METAL OXIDE	120	5%	3W
R3059	1-216-295-91	SHORT	0		
R3060	1-216-295-91	SHORT	0		
R3062	1-216-295-91	SHORT	0		
R3063	1-216-295-91	SHORT	0		
R3064	1-216-295-91	SHORT	0		
R3065	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R3066	1-216-343-00	METAL OXIDE	0.33	5%	1W
R3067	1-216-343-00	METAL OXIDE	0.33	5%	1W
R3070	1-216-097-91	RES-CHIP	100K	5%	1/10W
R3071	1-216-073-00	RES-CHIP	10K	5%	1/10W
R3072	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R3073	1-216-049-91	RES-CHIP	1K	5%	1/10W
R3074	1-216-077-91	RES-CHIP	15K	5%	1/10W
R3075	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3076	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R3077	1-216-073-00	RES-CHIP	10K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R3078	1-216-073-00	RES-CHIP	10K	5%	1/10W
R3079	1-216-073-00	RES-CHIP	10K	5%	1/10W

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*8-933-440-00	D BOARD, COMPLETE	
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3-710-578-01	COVER, VOLUME, 6 MOLD (RV901)	
4-070-828-01	INSULATING SHEET (Q515)	
4-070-829-02	INSULATING SHEET (IC502)	
4-070-830-01	INSULATING SHEET (IC701)	
4-077-445-01	HEAT SINK (D5) (R918, Q905, Q906)	
4-382-854-11	SCREW (M3X10), P, SW (+) (IC701, Q704, Q705, Q901, Q905, Q906, D508, R918)	
7-685-647-79	SCREW +BVTP 3X10 TYPE2 TT(B) (IC502, Q508, Q515, D511, R547)	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C501	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C502	1-136-169-00	MYLAR	0.22UF	5.00%	50V
C503	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C504	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C505	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C506	1-137-194-81	MYLAR	0.47UF	5.00%	50V
C507	1-136-169-00	MYLAR	0.22UF	5.00%	50V
C508	1-126-965-11	ELECT	22UF	20.00%	50V
C509	1-115-522-11	FILM	1UF	5.00%	250V
C510	1-117-398-11	ELECT	33UF	20.00%	250V
C511	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C512	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C513	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C514	1-106-375-12	MYLAR	0.022UF		200V
C515	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C516	1-126-934-11	ELECT	220UF	20.00%	16V
C517	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C518	1-137-194-81	MYLAR	0.47UF	5.00%	50V
C519	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C520	1-107-914-11	ELECT	1000UF	20.00%	25V
C521	1-115-518-11	FILM	0.47UF	5.00%	250V
C522	1-137-368-11	MYLAR	0.0047UF	5.00%	50V
C523	1-137-368-11	MYLAR	0.0047UF	5.00%	50V
C524	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C525	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C526	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C527	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C528	1-117-412-11	FILM	0.24UF	5.00%	250V
C529	1-104-665-11	ELECT	100UF	20.00%	25V
C530	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C531	1-117-660-21	FILM	0.12UF	5.00%	250V
C532	1-163-009-11	CERAMIC CHIP	0.001UF	10.00%	50V
C533	1-107-889-11	ELECT	220UF	20.00%	25V
C534	1-107-889-11	ELECT	220UF	20.00%	25V
C535	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C536	1-126-967-11	ELECT	47UF	20.00%	50V
C537	1-119-858-11	FILM	0.068UF	5.00%	250V
C538	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C539	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C540	1-104-987-11	MYLAR	0.001UF	10.00%	200V
C541	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C542	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C543	1-135-350-11	FILM	3600PF	3%	1.8KV
C544	1-117-953-11	FILM	0.033UF	5.00%	400V
C545	1-107-597-11	CERAMIC	22PF	5.00%	500V
C546	1-107-444-11	CERAMIC	100PF	5.00%	2KV
C547	1-130-061-91	FILM	0.0015UF	5.00%	630V
C548	1-162-134-11	CERAMIC	470PF	10.00%	2KV
C549	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C551	1-163-017-00	CERAMIC CHIP	0.0047UF	10.00%	50V
C552	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C554	1-107-444-11	CERAMIC	100PF	5.00%	2KV
C555	1-107-683-11	ELECT	2.2UF		250V
C556	1-117-892-11	FILM	2UF	5.00%	250V
C557	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C558	1-104-665-11	ELECT	100UF	20.00%	25V
C559	1-107-649-11	ELECT	2.2UF	20.00%	250V
C560	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C561	1-104-664-11	ELECT	47UF	20.00%	25V
C562	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C564	1-126-960-11	ELECT	1UF	20.00%	50V
C565	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C566	1-137-150-11	MYLAR	0.01UF	5.00%	50V
C567	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C568	1-104-760-11	CERAMIC CHIP	0.047UF	10.00%	50V
C569	1-126-933-11	ELECT	100UF	20.00%	16V
C571	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C572	1-163-009-11	CERAMIC CHIP	0.001UF	10.00%	50V
C573	1-106-375-12	MYLAR	0.022UF		200V
C575	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C576	1-164-222-11	CERAMIC CHIP	0.22UF		25V
C577	1-126-964-11	ELECT	10UF	20.00%	50V
C579	1-135-932-91	FILM	0.015UF	5%	400V
C580	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C701	1-128-560-11	ELECT	22UF	20.00%	100V
C702	1-128-562-11	ELECT	47UF	20.00%	100V
C703	1-104-331-11	CERAMIC	0.0022UF	10.00%	1KV
C704	1-104-568-11	CERAMIC	470PF	10.00%	2KV
C706	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C707	1-130-495-00	MYLAR	0.1UF	5.00%	50V
C708	1-126-942-61	ELECT	1000UF	20.00%	25V
C709	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C710	1-107-894-11	ELECT	220UF	20.00%	35V
C711	1-163-019-00	CERAMIC CHIP	0.0068UF	10.00%	50V
C712	1-137-401-11	MYLAR	0.22UF	10.00%	100V
C713	1-126-942-61	ELECT	1000UF	20.00%	25V
C715	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C720	1-126-964-11	ELECT	10UF	20.00%	50V
C901	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C902	1-104-665-11	ELECT	100UF	20.00%	25V
C903	1-126-964-11	ELECT	10UF	20.00%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C904	1-104-570-11	CERAMIC	0.001UF	10.00%	2KV
C905	1-163-127-00	CERAMIC CHIP	270PF	5.00%	50V
C906	1-117-623-11	FILM	1500PF	3.00%	1.2KV
C907	1-163-253-11	CERAMIC CHIP	120PF	5.00%	50V
C908	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C909	1-126-934-11	ELECT	220UF	20.00%	16V
C910	1-126-962-11	ELECT	3.3UF	20.00%	50V
C911	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C912	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C913	1-119-748-11	ELECT	33UF	20.00%	400V
C914	1-106-383-00	MYLAR	0.047UF	10.00%	200V
C915	1-136-169-00	MYLAR	0.22UF	5.00%	50V
C916	1-117-630-11	FILM	3000PF	3.00%	1.2KV
C917	1-117-665-11	FILM	0.33UF	5.00%	250V
C918	1-106-359-00	MYLAR	0.0047UF	10.00%	100V
C919	1-115-350-51	CERAMIC	0.0047UF		2KV
C920	1-137-372-11	MYLAR	0.022UF	5.00%	50V
C921	1-137-401-11	MYLAR	0.22UF	10.00%	100V
C922	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C923	1-106-355-12	MYLAR	0.0033UF	10.00%	200V
C924	1-106-220-00	MYLAR	0.1UF	10.00%	100V
C925	1-126-967-11	ELECT	47UF	20.00%	50V
C926	1-104-664-11	ELECT	47UF	20.00%	25V
C927	1-163-243-11	CERAMIC CHIP	47PF	5.00%	50V
C928	1-163-133-00	CERAMIC CHIP	470PF	5.00%	50V
C929	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C930	1-163-227-11	CERAMIC CHIP	10PF	0.50PF	50V
C931	1-126-964-11	ELECT	10UF	20.00%	50V
C932	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C933	1-126-960-11	ELECT	1UF	20.00%	50V
C935	1-163-275-11	CERAMIC CHIP	0.001UF	5.00%	50V
C936	1-163-113-00	CERAMIC CHIP	68PF	5.00%	50V
C946	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

<CONNECTOR>

CN501*	1-564-509-11	PLUG, CONNECTOR 6P	
CN502*	1-564-510-11	PLUG, CONNECTOR 7P	
CN503*	1-508-879-11	BASE POST	
CN504	1-784-786-11	CONNECTOR, FFC 25P	
CN505	1-784-786-11	CONNECTOR, FFC 25P	
CN506	1-764-101-11	PIN, CONNECTOR (PC BOARD) 2P	
CN508*	1-764-333-11	PLUG, CONNECTOR 10P	
CN509*	1-778-955-11	PIN, CONNECTOR (PC BOARD) 10P	

<DIODE>

D504	8-719-988-61	DIODE	1SS355TE-17
D505	8-719-110-36	ZENER DIODE	RD13ES-B2
D506	8-719-991-33	DIODE	1SS133T-77
D507	8-719-063-89	DIODE	YG911S3R
D508	8-719-031-79	DIODE	D5SC4M
D509	8-719-991-33	DIODE	1SS133T-77
D510	8-719-109-85	ZENER DIODE	RD5.1ESB2
D511	8-719-066-36	DIODE	FMQ-G5GS
D512	8-719-988-61	DIODE	1SS355TE-17
D513	8-719-991-33	DIODE	1SS133T-77
D514	8-719-991-33	DIODE	1SS133T-77
D515	8-719-109-89	ZENER DIODE	RD5.6ESB2
D516	8-719-991-33	DIODE	1SS133T-77
D517	8-719-951-30	DIODE	ERA91-02
D519	8-719-988-61	DIODE	1SS355TE-17
D520	8-719-988-61	DIODE	1SS355TE-17
D522	8-719-988-61	DIODE	1SS355TE-17
D701	8-719-991-33	DIODE	1SS133T-77
D702	8-719-991-33	DIODE	1SS133T-77
D703	8-719-991-33	DIODE	1SS133T-77
D704	1-216-295-91	SHORT	0
D706	8-719-979-58	DIODE	EGP10D
D707	8-719-109-85	ZENER DIODE	RD5.1ESB2
D708	8-719-908-03	DIODE	GP08D
D709	8-719-948-45	DIODE	ERA22-08
D710	8-719-109-85	ZENER DIODE	RD5.1ESB2
D901	8-719-991-33	DIODE	1SS133T-77
D902	8-719-110-31	ZENER DIODE	RD12ES-B2
D904	8-719-988-61	DIODE	1SS355TE-17
D905	8-719-110-36	ZENER DIODE	RD13ES-B2
D906	8-719-063-89	DIODE	YG911S3R
D907	8-719-930-97	ZENER DIODE	HZS16NB2TD
D908	8-719-018-82	DIODE	RGP02-20EL-6394
D909	8-719-930-97	ZENER DIODE	HZS16NB2TD
D910	8-719-991-33	DIODE	1SS133T-77
D911	8-719-018-82	DIODE	RGP02-20EL-6394
D912	8-719-979-58	DIODE	EGP10D
D913	8-719-991-33	DIODE	1SS133T-77
D915	8-719-110-67	ZENER DIODE	RD27ES-B2
D917	8-719-988-61	DIODE	1SS355TE-17
D918	8-719-991-33	DIODE	1SS133T-77
D919	8-719-991-33	DIODE	1SS133T-77
D920	8-719-109-81	ZENER DIODE	RD4.7ES-B2
D921	8-719-991-33	DIODE	1SS133T-77
D922	8-719-018-82	DIODE	RGP02-20EL-6394
D923	8-719-988-61	DIODE	1SS355TE-17
D925	8-719-018-82	DIODE	RGP02-20EL-6394

<FERRITE BEAD>

FB501	1-410-397-21	FERRITE	1.1UH
FB502	1-410-397-21	FERRITE	1.1UH
FB503	1-412-911-11	FERRITE	1.1UH
FB504	1-412-911-11	FERRITE	1.1UH
FB505	1-412-911-11	FERRITE	1.1UH
FB506	1-410-397-21	FERRITE	1.1UH
FB507	1-410-397-21	FERRITE	1.1UH
FB901	1-410-397-21	FERRITE	1.1UH

<IC>

IC501	8-759-585-82	IC	BA9759F-E2
IC502	8-759-803-42	IC	LA6500-FA
IC503	8-759-058-50	IC	XRA10324AF
IC504	8-759-643-66	IC	uPC2912HF(12)
IC701	8-759-444-82	IC	LA7841L
IC901	8-759-585-81	IC	BA9758FS-E2

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<COIL>	
L501	1-412-537-31	INDUCTOR 100UH	
L502	1-406-671-11	INDUCTOR 1MH	
L503	1-406-671-11	INDUCTOR 1MH	
L504	1-406-675-11	INDUCTOR 4.7MH	
L505	1-416-401-31	INDUCTOR 5MH	
L506	1-406-671-11	INDUCTOR 1MH	
L901	1-412-537-31	INDUCTOR 100UH	
L902	1-406-660-41	INDUCTOR 15UH	
		<TRANSISTOR>	
Q501	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q502	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q503	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q504	8-729-901-87	TRANSISTOR 2SC2411K-CQ	
Q505	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q506	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q507	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q508	8-729-048-53	TRANSISTOR 2SJ569LS-CB11	
Q509	8-729-820-73	TRANSISTOR 2SC3746	
Q510	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q511	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q512	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q513	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q514	8-729-140-50	TRANSISTOR 2SC3209LK	
Q515	8-729-048-48	TRANSISTOR 2SC5570(LBSONY)	
Q516	8-729-024-95	TRANSISTOR 2SB1565EF	
Q517	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q518	8-729-019-01	TRANSISTOR 2SD2394-EF	
Q519	8-729-033-25	TRANSISTOR DTC114GKA	
Q520	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q521	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q522	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q523	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q524	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q525	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q526	8-729-027-35	TRANSISTOR DTA143TKA-T146	
Q527	8-729-048-49	TRANSISTOR 2SK3262-01MR-F119	
Q701	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q702	8-729-178-43	TRANSISTOR 2SC2784	
Q703	8-729-204-91	TRANSISTOR 2SA1049-GR	
Q704	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q705	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q706	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q707	8-729-046-80	TRANSISTOR 2SC4634LS-CB11	
Q901	8-729-044-21	TRANSISTOR 2SK2655-01R-F165	
Q902	8-729-900-53	TRANSISTOR DTC114EK	
Q903	8-729-901-87	TRANSISTOR 2SC2411K-CQ	
Q904	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q905	8-729-048-53	TRANSISTOR 2SJ569LS-CB11	
Q906	8-729-044-21	TRANSISTOR 2SK2655-01R-F165	
Q907	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q908	8-729-033-25	TRANSISTOR DTC114GKA	
Q909	8-729-900-53	TRANSISTOR DTC114EK	
Q910	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<RESISTOR>			
R501	1-215-884-11	METAL OXIDE	47	5%	2W
R502	1-216-059-00	RES-CHIP	2.7K	5%	1/10W
R503	1-216-049-91	RES-CHIP	1K	5%	1/10W
R504	1-216-025-91	RES-CHIP	100	5%	1/10W
R505	1-216-049-91	RES-CHIP	1K	5%	1/10W
R506	1-216-049-91	RES-CHIP	1K	5%	1/10W
R507	1-216-097-91	RES-CHIP	100K	5%	1/10W
R508	1-249-409-11	CARBON	220	5%	1/4W
R509	1-216-049-91	RES-CHIP	1K	5%	1/10W
R510	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R511	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R512	1-215-453-00	METAL	22K	1%	1/4W
R513	1-216-025-91	RES-CHIP	100	5%	1/10W
R514	1-216-097-91	RES-CHIP	100K	5%	1/10W
R515	1-216-049-91	RES-CHIP	1K	5%	1/10W
R516	1-216-049-91	RES-CHIP	1K	5%	1/10W
R517	1-216-685-11	METAL CHIP	27K	0.50%	1/10W
R518	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R519	1-216-081-00	RES-CHIP	22K	5%	1/10W
R520	1-247-791-91	CARBON	22	5%	1/4W
R521	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R522	1-249-437-11	CARBON	47K	5%	1/4W
R523	1-216-033-00	RES-CHIP	220	5%	1/10W
R524	1-216-025-91	RES-CHIP	100	5%	1/10W
R525	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R526	1-216-097-91	RES-CHIP	100K	5%	1/10W
R527	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R528	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R529	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R530	1-216-025-91	RES-CHIP	100	5%	1/10W
R531	1-216-097-91	RES-CHIP	100K	5%	1/10W
R532	1-215-860-11	METAL OXIDE	33	5%	1W
R533	1-211-796-11	FUSIBLE	1	5%	1/2W
R534	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R535	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R536	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R537	1-249-437-11	CARBON	47K	5%	1/4W
R538	1-216-025-91	RES-CHIP	100	5%	1/10W
R539	1-216-097-91	RES-CHIP	100K	5%	1/10W
R540	1-215-909-11	METAL OXIDE	47	5%	3W
R541	1-216-295-91	SHORT	0		
R542	1-249-437-11	CARBON	47K	5%	1/4W
R543	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R544	1-216-025-91	RES-CHIP	100	5%	1/10W
R545	1-216-097-91	RES-CHIP	100K	5%	1/10W
R546	1-219-728-11	METAL	0.22	10%	5W
R547	1-219-677-11	METAL	1.8	5%	10W
R548	1-249-437-11	CARBON	47K	5%	1/4W
R549	1-260-288-11	CARBON	0.47	5%	1/2W
R550	1-260-288-11	CARBON	0.47	5%	1/2W
R551	1-216-025-91	RES-CHIP	100	5%	1/10W
R552	1-216-097-91	RES-CHIP	100K	5%	1/10W
R553	1-249-409-11	CARBON	220	5%	1/4W
R554	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R555	1-216-675-91	METAL CHIP	10K	0.50%	1/10W

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REF.NO.	PART NO.	DESCRIPTION		REMARK
R556	1-216-683-11	METAL CHIP	22K	0.50%1/10W
R557	1-216-423-11	METAL OXIDE	27	5% 1W
R558	1-249-437-11	CARBON	47K	5% 1/4W
R559	1-216-073-00	RES-CHIP	10K	5% 1/10W
R560	1-216-675-91	METAL CHIP	10K	0.50%1/10W
R561	1-215-443-00	METAL	8.2K	1% 1/4W
R562	1-216-677-11	METAL CHIP	12K	0.50%1/10W
R563	1-216-025-91	RES-CHIP	100	5% 1/10W
R564	1-216-677-11	METAL CHIP	12K	0.50%1/10W
R565	1-216-097-91	RES-CHIP	100K	5% 1/10W
R566	1-216-685-11	METAL CHIP	27K	0.50%1/10W
R567	1-214-840-00	METAL	100	1% 1/2W
R568	1-216-665-11	METAL CHIP	3.9K	0.50%1/10W
R569	1-216-691-11	METAL CHIP	47K	0.50%1/10W
R570	1-260-332-51	CARBON	2.2K	5% 1/2W
R572	1-216-385-11	METAL OXIDE	0.47	5% 3W
R573	1-249-437-11	CARBON	47K	5% 1/4W
R574	1-216-097-91	RES-CHIP	100K	5% 1/10W
R575	1-216-672-11	METAL CHIP	7.5K	0.50%1/10W
R576	1-215-869-11	METAL OXIDE	1K	5% 1W
R577	1-260-312-11	CARBON	47	5% 1/2W
R578	1-216-049-91	RES-CHIP	1K	5% 1/10W
R579	1-216-049-91	RES-CHIP	1K	5% 1/10W
R580	1-214-840-00	METAL	100	1% 1/2W
R581	1-260-308-11	CARBON	22	5% 1/2W
R582	1-214-840-00	METAL	100	1% 1/2W
R583	1-249-437-11	CARBON	47K	5% 1/4W
R584	1-249-437-11	CARBON	47K	5% 1/4W
R585	1-216-073-00	RES-CHIP	10K	5% 1/10W
R586	1-216-683-11	METAL CHIP	22K	0.50%1/10W
R587	1-215-913-11	METAL OXIDE	220	5% 3W
R588	1-260-085-11	CARBON	68	5% 1/2W
R589	1-216-057-00	RES-CHIP	2.2K	5% 1/10W
R590	1-216-057-00	RES-CHIP	2.2K	5% 1/10W
R591	1-247-807-31	CARBON	100	5% 1/4W
R592	1-215-913-11	METAL OXIDE	220	5% 3W
R593	1-216-073-00	RES-CHIP	10K	5% 1/10W
R594	1-216-683-11	METAL CHIP	22K	0.50%1/10W
R595	1-216-659-11	METAL CHIP	2.2K	0.50%1/10W
R597	1-216-073-00	RES-CHIP	10K	5% 1/10W
R598	1-216-675-91	METAL CHIP	10K	0.50%1/10W
R599	1-216-657-11	METAL CHIP	1.8K	0.50%1/10W
R701	1-216-049-91	RES-CHIP	1K	5% 1/10W
R702	1-249-393-11	CARBON	10	5% 1/4W
R703	1-215-456-00	METAL	30K	1% 1/4W
R704	1-216-651-11	METAL CHIP	1K	0.50%1/10W
R705	1-249-413-11	CARBON	470	5% 1/4W
R706	1-249-389-11	CARBON	4.7	5% 1/4W
R707	1-249-389-11	CARBON	4.7	5% 1/4W
R708	1-215-881-11	METAL OXIDE	15	5% 2W
R709	1-216-049-91	RES-CHIP	1K	5% 1/10W
R710	1-216-073-00	RES-CHIP	10K	5% 1/10W
R711	1-216-049-91	RES-CHIP	1K	5% 1/10W
R713	1-216-059-00	RES-CHIP	2.7K	5% 1/10W
R714	1-216-057-00	RES-CHIP	2.2K	5% 1/10W
R715	1-249-389-11	CARBON	4.7	5% 1/4W
R716	1-216-689-11	RES-CHIP	39K	5% 1/10W
R717	1-216-073-00	RES-CHIP	10K	5% 1/10W
R718	1-216-681-11	METAL CHIP	18K	0.50%1/10W
R719	1-216-663-11	METAL CHIP	3.3K	0.50%1/10W
R720	1-216-073-00	RES-CHIP	10K	5% 1/10W
R721	1-216-073-00	RES-CHIP	10K	5% 1/10W
R722	1-260-292-11	CARBON	1	5% 1/2W
R723	1-216-663-11	METAL CHIP	3.3K	0.50%1/10W
R724	1-216-057-00	RES-CHIP	2.2K	5% 1/10W
R725	1-214-798-21	METAL	1.8	1% 1/2W
R726	1-214-798-21	METAL	1.8	1% 1/2W
R727	1-249-381-11	CARBON	1	5% 1/4W
R728	1-215-865-11	METAL OXIDE	220	5% 1W
R729	1-260-292-11	CARBON	1	5% 1/2W
R730	1-216-683-11	METAL CHIP	22K	0.50%1/10W
R731	1-216-668-11	METAL CHIP	5.1K	0.50%1/10W
R732	1-219-510-11	CARBON	470K	5% 1/2W
R901	1-216-097-91	RES-CHIP	100K	5% 1/10W
R902	1-216-117-00	RES-CHIP	680K	5% 1/10W
R903	1-216-089-91	RES-CHIP	47K	5% 1/10W
R904	1-216-033-00	RES-CHIP	220	5% 1/10W
R905	1-216-097-91	RES-CHIP	100K	5% 1/10W
R906	1-216-033-00	RES-CHIP	220	5% 1/10W
R907	1-216-081-00	RES-CHIP	22K	5% 1/10W
R908	1-216-399-00	METAL OXIDE	6.8	5% 3W
R909	1-216-049-91	RES-CHIP	1K	5% 1/10W
R910	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R911	1-216-041-00	RES-CHIP	470	5% 1/10W
R912	1-216-049-91	RES-CHIP	1K	5% 1/10W
R914	1-247-791-91	CARBON	22	5% 1/4W
R915	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R916	1-249-397-11	CARBON	22	5% 1/4W
R917	1-211-824-71	FUSIBLE	220	5% 1/2W
R918	1-219-727-11	METAL	68	5% 10W
R919	1-219-748-11	CARBON	4.7K	5% 1/2W
R920	1-216-089-91	RES-CHIP	47K	5% 1/10W
R921	1-215-408-00	METAL	300	1% 1/4W
R922	1-249-389-11	CARBON	4.7	5% 1/4W
R923	1-218-760-11	METAL CHIP	220K	0.50%1/10W
R924	1-216-073-00	RES-CHIP	10K	5% 1/10W
R925	1-220-825-11	CARBON	330K	5% 1/2W
R926	1-219-746-11	CARBON	1K	5% 1/2W
R927	1-219-746-11	CARBON	1K	5% 1/2W
R928	1-216-668-11	METAL CHIP	5.1K	0.50%1/10W
R929	1-216-691-11	METAL CHIP	47K	0.50%1/10W
R930	1-216-653-11	METAL CHIP	1.2K	0.50%1/10W
R931	1-216-651-11	METAL CHIP	1K	0.50%1/10W
R932	1-216-665-11	METAL CHIP	3.9K	0.50%1/10W
R933	1-216-687-11	METAL CHIP	33K	0.50%1/10W
R934	1-216-667-11	METAL CHIP	4.7K	0.50%1/10W
R935	1-216-089-91	RES-CHIP	47K	5% 1/10W
R936	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R937	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R938	1-216-295-91	SHORT	0	
R939	1-216-049-91	RES-CHIP	1K	5% 1/10W
R940	1-216-073-00	RES-CHIP	10K	5% 1/10W

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

The components identified by ⧓ in this manual have been carefully factory-selected for eachset in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R941	1-216-025-91	RES-CHIP	100	5%	1/10W
R942	1-216-073-00	RES-CHIP	10K	5%	1/10W
R943	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R945	1-216-025-91	RES-CHIP	100	5%	1/10W
R1501	1-216-049-91	RES-CHIP	1K	5%	1/10W
R1502	1-216-033-00	RES-CHIP	220	5%	1/10W
R1503	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R1504	1-216-295-91	SHORT	0		
R1505	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1506	1-216-025-91	RES-CHIP	100	5%	1/10W
R1507	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1510	1-216-073-00	RES-CHIP	10K	5%	1/10W
R1515	1-215-909-11	METAL OXIDE	47	5%	3W
R1518	1-216-025-91	RES-CHIP	100	5%	1/10W
R1587	1-249-437-11	CARBON	47K	5%	1/4W
R1588	1-216-097-91	RES-CHIP	100K	5%	1/10W
R1589	1-216-025-91	RES-CHIP	100	5%	1/10W
		<VARIABLE RESISTOR>			
⧓ RV901	⚠ 1-241-767-21	RES, ADJ, CERMET 100K (HV ADJ)			
		<RELAY>			
RY501	1-755-198-11	RELAY			
		<SPARK GAP>			
SG901	1-517-499-21	GAP, SPARK			
SG902	1-519-422-11	GAP, SPARK			
SG903	1-519-422-11	GAP, SPARK			
		<TRANSFORMER>			
T501	1-435-070-11	TRANSFORMER, HORIZONTAL DRIVE			
T502	1-429-301-11	TRANSFORMER, FERRITE (HCT)			
T503	1-426-998-11	TRANSFORMER, FERRITE (HST)			
T701	1-435-719-11	TRANSFORMER, FERRITE (DFT)			
T901	1-416-402-11	INDUCTOR 500UH			
T902	⚠ 1-453-348-11	TRANSFORMER ASSY, FLYBACK (NX-4504//J1D4)			
		<THERMISTOR>			
TH501	1-807-796-11	THERMISTOR			
TH502	1-807-796-11	THERMISTOR			

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REF.NO.	PART NO.	DESCRIPTION			REMARK
*	8-933-441-00	G BOARD, COMPLETE			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+) (IC652, IC654, Q620, Q621, Q630, Q651, D610, D652, D680)			
	7-682-950-01	SCREW +PSW 3X12 (IC610)			
		<CAPACITOR>			
C601	⚠ 1-113-513-11	FILM	1UF	20.00%	275V
C602	⚠ 1-113-513-11	FILM	1UF	20.00%	275V
C603	⚠ 1-113-900-51	CERAMIC	470PF	10.00%	250V
C604	⚠ 1-113-900-51	CERAMIC	470PF	10.00%	250V
C605	⚠ 1-113-926-91	CERAMIC	0.0047UF		250V
C606	⚠ 1-113-926-91	CERAMIC	0.0047UF		250V
C607	⚠ 1-113-900-51	CERAMIC	470PF	10.00%	250V
C608	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C609	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C610	1-117-849-11	ELECT	330UF	20.00%	450V
C611	1-137-479-11	MYLAR	1UF	10.00%	400V
C612	1-136-169-00	MYLAR	0.22UF	5.00%	50V
C613	1-126-967-11	ELECT	47UF	20.00%	50V
C614	1-163-251-11	CERAMIC CHIP	100PF	5.00%	50V
C629	1-137-150-11	MYLAR	0.01UF	5.00%	50V
C630	1-163-005-11	CERAMIC CHIP	470PF	10.00%	50V
C631	1-107-910-11	ELECT	100UF	20.00%	50V
C633	1-164-161-11	CERAMIC CHIP	0.0022UF	10.00%	50V
C634	1-163-009-11	CERAMIC CHIP	0.001UF	10.00%	50V
C639	1-135-833-21	FILM	18000PF	3%	800V
C640	1-126-964-11	ELECT	10UF	20.00%	50V
C641	1-162-115-00	CERAMIC	330PF	10.00%	1KV
C642	1-136-165-00	MYLAR	0.1UF	5.00%	50V
C643	1-162-115-00	CERAMIC	330PF	10.00%	1KV
C644	1-163-009-11	CERAMIC CHIP	0.001UF	10.00%	50V
C645	1-136-479-11	FILM	0.001UF	2.00%	50V
C646	1-126-961-11	ELECT	2.2UF	20.00%	50V
C647	1-126-964-11	ELECT	10UF	20.00%	50V
C648	1-126-967-11	ELECT	47UF	20.00%	50V
C649	1-163-009-11	CERAMIC CHIP	0.001UF	10.00%	50V
C650	1-107-656-11	ELECT	100UF	20.00%	250V
C651	1-107-651-11	ELECT	4.7UF	20.00%	250V
C652	1-128-563-11	ELECT	100UF	20.00%	100V
C653	1-128-581-11	ELECT	4.7UF	20.00%	100V
C654	1-111-070-51	ELECT	2200UF	20.00%	25V
C655	1-104-664-11	ELECT	47UF	20.00%	25V
C656	1-111-070-51	ELECT	2200UF	20.00%	25V
C657	1-104-664-11	ELECT	47UF	20.00%	25V
C658	1-126-927-11	ELECT	2200UF	20.00%	10V
C659	1-128-339-11	ELECT	2200UF	20.00%	10V
C661	1-102-244-00	CERAMIC	220PF	10.00%	500V
C662	1-137-150-11	MYLAR	0.01UF	5.00%	50V
C665	1-107-909-11	ELECT	47UF	20.00%	10V
C667	1-107-909-11	ELECT	47UF	20.00%	16V
C680	1-115-747-51	ELECT	0.0068F	20.00%	10V
C681	1-104-664-11	ELECT	47UF	20.00%	10V

G

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REF.NO.	PART NO.	DESCRIPTION	REMARK
C682	1-137-368-11	MYLAR 0.0047UF 5.00% 50V	
C683	1-104-664-11	ELECT 47UF 20.00% 10V	
C684	1-128-526-11	ELECT 100UF 20.00% 10V	
C685	1-128-526-11	ELECT 100UF 20.00% 10V	
C686	1-104-664-11	ELECT 47UF 20.00% 10V	
C692	1-115-339-11	CERAMIC CHIP 0.1UF 10.00% 50V	
		<CONNECTOR>	
CN601*	1-580-689-11	PIN, CONNECTOR (PC BOARD) 4P	
CN602*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
CN603*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P	
CN605	1-900-251-20	CONNECTOR ASSY	
CN650*	1-564-510-11	PLUG, CONNECTOR 7P	
CN651*	1-564-507-11	PLUG, CONNECTOR 4P	
CN652*	1-564-512-11	PLUG, CONNECTOR 9P	
CN653*	1-564-509-11	PLUG, CONNECTOR 6P	
CN654*	1-764-333-11	PLUG, CONNECTOR 10P	
CN655*	1-564-506-11	PLUG, CONNECTOR 3P	
		<DIODE>	
D601	8-719-073-01	DIODE MA111-(K8.)S0	
D610 ⚠	8-719-510-53	DIODE D4SB60L	
D613	8-719-304-63	DIODE RM11C	
D620	8-719-110-57	ZENER DIODE RD22ES-B2	
D630	8-719-110-57	ZENER DIODE RD22ES-B2	
D631	8-719-063-73	DIODE D1NL20U-TR	
D632	8-719-059-23	DIODE P6KE200AG23	
D633	8-719-069-63	DIODE ERB38-06V1	
D635	8-719-110-53	ZENER DIODE RD20ES-B2	
D637	8-719-911-19	DIODE 1SS119-25	
D640	8-719-069-63	DIODE ERB38-06V1	
D650	8-719-064-49	DIODE D4SBL40	
D651	8-719-063-73	DIODE D1NL20U-TR	
D652	8-719-052-91	DIODE D4SBS4-F	
D653	8-719-022-97	DIODE D2S4MF	
D654	8-719-022-97	DIODE D2S4MF	
D655	8-719-063-73	DIODE D1NL20U-TR	
D664	8-719-110-57	ZENER DIODE RD22ES-B2	
D680	8-719-989-87	DIODE YG802C09	
D681	8-719-109-89	ZENER DIODE RD5.6ES-B2	
D682	8-719-929-15	ZENER DIODE HZS9.1NB2	
D690	8-719-911-19	DIODE 1SS119-25	
D692	8-719-911-19	DIODE 1SS119-25	
		<FUSE>	
F601 ⚠	1-576-233-11	FUSE (H.B.C.) (6.3A/250A)	
FH1	1-533-223-11	HOLDER, FUSE; F601	
FH2	1-533-223-11	HOLDER, FUSE; F601	
		<FERRITE BEAD>	
FB630	1-410-396-41	FERRITE 0.45UH	
FB632 ⚠	1-410-397-31	FERRITE 1.1UH	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<IC>	
IC610	8-749-015-27	IC MZ1540	
IC620	8-759-670-30	IC MCZ3001D	
IC630	8-759-535-32	IC FA13842P	
IC650	8-749-012-49	IC DM-57N	
IC651	8-759-592-79	IC BA00AST-V5	
IC652	8-759-496-15	IC BA05ST-V5	
IC653	8-759-450-47	IC BA05T	
IC654	8-759-643-66	IC uPC2912HF(12)	
IC680	8-759-321-95	IC HA17431PA	
		<COIL>	
L610	1-419-585-11	INDUCTOR 230UH	
L611	1-419-726-11	INDUCTOR 100UH	
L650	1-414-742-21	INDUCTOR 22UH	
L651	1-414-742-21	INDUCTOR 22UH	
L652	1-406-661-21	INDUCTOR 22UH	
L653	1-406-661-21	INDUCTOR 22UH	
L680	1-406-661-21	INDUCTOR 22UH	
		<PHOTO COUPLER>	
PH610	8-749-010-64	PHOTO COUPLER PC123F2	
PH620	8-749-010-64	PHOTO COUPLER PC123F2	
PH630	8-749-010-64	PHOTO COUPLER PC123F2	
		<IC LINK>	
PS650	⚠ 1-533-593-31	LINK, IC (2A/90V AC, 60V DC)	
PS680	⚠ 1-533-596-31	LINK, IC (4A/90V AC, 60V DC)	
		<TRANSISTOR>	
Q610	8-729-821-04	TRANSISTOR 2SA1317-STU	
Q611	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q612	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q613	8-729-027-23	TRANSISTOR DTA114EKA-T146	
Q620	8-729-053-36	TRANSISTOR 2SK2640-010MR	
Q621	8-729-053-36	TRANSISTOR 2SK2640-010MR	
Q630	8-729-045-03	TRANSISTOR 2SK2647-01MR-F91	
Q631	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q632	8-729-041-66	TRANSISTOR 2SC4015TV2	
Q633	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q652	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q653	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q667	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q671	8-729-026-49	TRANSISTOR 2SA1037AK-T146-R	
Q691	8-729-423-33	TRANSISTOR 2SC3311A-QRSTA	
		<RESISTOR>	
R601 ⚠	1-220-825-91	CARBON 330K 5% 1/2W	
R602	1-216-465-11	METAL OXIDE 27K 5% 2W	
R603	1-247-895-91	CARBON 470K 5% 1/4W	
R604	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R605	1-216-113-00	RES-CHIP 470K 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R606	1-216-097-91	RES-CHIP	100K	5%	1/10W
R607	1-216-097-91	RES-CHIP	100K	5%	1/10W
R608	1-216-073-00	RES-CHIP	10K	5%	1/10W
R609	1-216-069-00	RES-CHIP	6.8K	5%	1/10W
R610	1-217-152-00	METAL	0.33	10%	2W
R611	1-217-152-00	METAL	0.33	10%	2W
R612	1-249-425-11	CARBON	4.7K	5%	1/4W
R613	1-216-089-91	RES-CHIP	47K	5%	1/10W
R614	1-247-807-31	CARBON	100	5%	1/4W
R615	1-249-427-11	CARBON	6.8K	5%	1/4W
R616	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R617	1-249-417-11	CARBON	1K	5%	1/4W
R618	1-216-369-00	METAL OXIDE	1	5%	2W
R619	1-216-049-91	RES-CHIP	1K	5%	1/10W
R620	1-202-933-61	FUSIBLE	0.1	10%	1/2W
R621	1-219-513-11	CARBON	4.7M	5%	1/2W
R622	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R623	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R624	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R625	1-249-393-11	CARBON	10	5%	1/4W
R626	1-249-429-11	CARBON	10K	5%	1/4W
R627	1-249-393-11	CARBON	10	5%	1/4W
R628	1-249-429-11	CARBON	10K	5%	1/4W
R629	1-249-410-11	CARBON	270	5%	1/4W
R630	1-249-387-11	CARBON	3.3	5%	1/4W
R631	1-247-807-31	CARBON	100	5%	1/4W
R632	1-215-381-00	METAL	22	1%	1/4W
R633	1-260-135-11	CARBON	1M	5%	1/2W
R634	1-260-135-11	CARBON	1M	5%	1/2W
R635	1-216-465-11	METAL OXIDE	27K	5%	2W
R636	1-249-433-11	CARBON	22K	5%	1/4W
R639	1-215-485-00	METAL	470K	1%	1/4W
R640	1-215-481-00	METAL	330K	1%	1/4W
R641	1-215-481-00	METAL	330K	1%	1/4W
R642	1-216-695-11	METAL CHIP	68K	0.50%	1/10W
R643	1-216-381-11	METAL OXIDE	0.22	5%	3W
R644	1-216-073-00	RES-CHIP	10K	5%	1/10W
R645	1-216-073-00	RES-CHIP	10K	5%	1/10W
R649	1-249-437-11	CARBON	47K	5%	1/4W
R650	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R652	1-216-073-00	RES-CHIP	10K	5%	1/10W
R664	1-216-073-00	RES-CHIP	10K	5%	1/10W
R665	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R666	1-216-073-00	RES-CHIP	10K	5%	1/10W
R667	1-216-089-91	RES-CHIP	47K	5%	1/10W
R668	1-215-457-00	METAL	33K	1%	1/4W
R670	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R671	1-216-677-11	METAL CHIP	12K	0.50%	1/10W
R672	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R673	1-216-073-00	RES-CHIP	10K	5%	1/10W
R674	1-216-097-91	RES-CHIP	100K	5%	1/10W
R675	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R676	1-216-668-11	METAL CHIP	5.1K	0.50%	1/10W
R677	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R678	1-216-390-11	METAL OXIDE	1.2	5%	3W
R680	1-215-475-00	METAL	180K	1%	1/4W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R681	1-216-073-00	RES-CHIP	10K	5%	1/10W
R682	1-216-049-91	RES-CHIP	1K	5%	1/10W
R684	1-216-041-00	RES-CHIP	470	5%	1/10W
R686	1-216-033-00	RES-CHIP	220	5%	1/10W
R687	1-216-081-00	RES-CHIP	22K	5%	1/10W
R688	1-215-473-00	METAL	150K	1%	1/4W
R691	1-216-049-91	RES-CHIP	1K	5%	1/10W
R692	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R693	1-260-085-11	CARBON	68	5%	1/2W
R694	1-216-073-00	RES-CHIP	10K	5%	1/10W
R695	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R696	1-249-407-11	CARBON	150	5%	1/4W
R698	1-216-073-00	RES-CHIP	10K	5%	1/10W
R699	1-202-933-61	FUSIBLE	0.1	10%	1/2W

<RELAY>

RY602 ⚠ 1-755-318-11 RELAY, POWER
RY603 ⚠ 1-755-067-21 RELAY

<SPARK GAP>

SG601 ⚠ 1-533-982-21 GAP, SPARK

<TRANSFORMER>

T601 ⚠ 1-435-710-11 TRANSFORMER, LINE FILTER
T620 1-435-441-11 TRANSFORMER, CONVERTER (PIT)
T630 1-433-895-41 TRANSFORMER, CONVERTER (SRT)

<THERMISTOR>

TH601 ⚠ 1-809-260-11 THERMISTOR, POWER
THP601 ⚠ 1-809-827-31 THERMISTOR, POSITIVE

<VARISTOR>

VDR601 ⚠ 1-801-268-51 VARISTOR TNR14V471K660

****

* 8-933-432-00 A BOARD, COMPLETE
****

7-682-950-01 SCREW +PSW 3X12 (IC403)

<CAPACITOR>

C101	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C102	1-104-664-11	ELECT	47UF	20.00%	25V
C103	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C104	1-104-664-11	ELECT	47UF	20.00%	25V
C107	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C108	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
C109	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
C110	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C111	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C112	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C113	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C114	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C115	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C117	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C120	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C201	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C202	1-104-664-11	ELECT 47UF	20.00% 25V
C203	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C204	1-104-664-11	ELECT 47UF	20.00% 25V
C205	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C206	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V
C207	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C208	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C209	1-163-237-11	CERAMIC CHIP 27PF	5.00% 50V
C210	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C211	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C212	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C213	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C214	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C215	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C216	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C217	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C220	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C301	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C302	1-104-664-11	ELECT 47UF	20.00% 25V
C303	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C304	1-104-664-11	ELECT 47UF	20.00% 25V
C307	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C308	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C309	1-163-239-11	CERAMIC CHIP 33PF	5.00% 50V
C310	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C311	1-163-227-11	CERAMIC CHIP 10PF	0.50PF 50V
C312	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C313	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C314	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C315	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C317	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C320	1-136-189-00	MYLAR 0.1UF	10.00% 250V
C401	1-126-964-11	ELECT 10UF	20.00% 50V
C402	1-104-664-11	ELECT 47UF	20.00% 25V
C403	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C404	1-163-259-91	CERAMIC CHIP 220PF	5.00% 50V
C405	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C406	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C407	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C408	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C410	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C411	1-104-664-11	ELECT 47UF	20.00% 25V
C412	1-115-340-11	CERAMIC CHIP 0.22UF	10.00% 25V
C413	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C415	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C416	1-126-961-11	ELECT 2.2UF	20.00% 50V
C417	1-104-574-11	CERAMIC 0.0047UF	10.00% 2KV
C419	1-162-318-11	CERAMIC 0.001UF	10.00% 500V
C420	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C421	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C422	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C423	1-104-664-11	ELECT 47UF	20.00% 25V
C424	1-162-318-11	CERAMIC 0.001UF	10.00% 500V
C425	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C426	1-163-251-11	CERAMIC CHIP 100PF	5.00% 50V
C427	1-163-235-11	CERAMIC CHIP 22PF	5.00% 50V
C430	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C431	1-163-275-11	CERAMIC CHIP 0.001UF	5.00% 50V
C432	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C433	1-162-318-11	CERAMIC 0.001UF	10.00% 500V
C434	1-162-318-11	CERAMIC 0.001UF	10.00% 500V
C435	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C436	1-164-489-11	CERAMIC CHIP 0.22UF	10.00% 16V
C437	1-126-934-11	ELECT 220UF	20.00% 16V
C438	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C440	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C441	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C442	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C443	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C444	1-162-318-11	CERAMIC 0.001UF	10.00% 500V
C446	1-104-664-11	ELECT 47UF	20.00% 25V
C449	1-109-982-11	CERAMIC CHIP 1UF	10.00% 10V
C450	1-107-823-11	CERAMIC CHIP 0.47UF	10.00% 16V
C452	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C456	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C457	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C458	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C459	1-128-560-11	ELECT 22UF	20.00% 100V
C462	1-115-339-11	CERAMIC CHIP 0.1UF	10.00% 50V
C463	1-164-004-11	CERAMIC CHIP 0.1UF	10.00% 25V
C464	1-163-021-91	CERAMIC CHIP 0.01UF	10.00% 50V
C467	1-107-957-11	ELECT 1UF	20.00% 250V

<CONNECTOR>

CN401	1-793-183-11	CONNECTOR, D SUB 15P
CN402*	1-564-509-11	PLUG, CONNECTOR 6P
CN403	1-784-463-11	CONNECTOR, FFC/FPC 21P
CN405*	1-564-524-11	PLUG, CONNECTOR 9P
CN406*	1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P

<DIODE>

D101	8-719-062-51	DIODE 1PS226-115
D102	8-719-062-51	DIODE 1PS226-115
D103	8-719-066-10	DIODE 1PS181-115
D105	8-719-051-85	DIODE HSS83TD
D106	8-719-052-12	DIODE 1SS376TE-17
D107	8-719-052-12	DIODE 1SS376TE-17
D201	8-719-062-51	DIODE 1PS226-115
D202	8-719-062-51	DIODE 1PS226-115
D203	8-719-066-10	DIODE 1PS181-115
D205	8-719-051-85	DIODE HSS83TD

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D206	8-719-052-12	DIODE 1SS376TE-17	
D207	8-719-052-12	DIODE 1SS376TE-17	
D301	8-719-062-51	DIODE 1PS226-115	
D302	8-719-062-51	DIODE 1PS226-115	
D303	8-719-066-10	DIODE 1PS181-115	
D305	8-719-051-85	DIODE HSS83TD	
D306	8-719-052-12	DIODE 1SS376TE-17	
D307	8-719-052-12	DIODE 1SS376TE-17	
D402	8-719-801-78	DIODE 1SS184	
D403	8-719-982-36	ZENER DIODE MTZJ-39B	
D405	8-719-911-19	DIODE 1SS119-25	
D406	8-719-062-51	DIODE 1PS226-115	
D407	8-719-062-51	DIODE 1PS226-115	
		<FERRITE BEAD>	
FB402	1-412-911-11	FERRITE 1.1UH	
FB403	1-412-911-11	FERRITE 1.1UH	
FB404	1-412-911-11	FERRITE 1.1UH	
FB405	1-412-911-11	FERRITE 1.1UH	
FB406	1-412-911-11	FERRITE 1.1UH	
FB411	1-412-911-11	FERRITE 1.1UH	
		<IC>	
IC401	8-759-584-87	IC M52757FP-TP	
IC402	8-759-584-86	IC M52749FP-TP	
IC403	8-749-015-91	IC FA4301	
IC404	8-759-585-72	IC CXD9514M	
IC405	8-759-701-01	IC NJM2904M	
IC406	8-749-015-92	IC H8D2972	
IC407	8-759-925-74	IC SN74HC04ANS	
		<COIL>	
L101	1-410-805-11	INDUCTOR 68NH	
L201	1-410-805-11	INDUCTOR 68NH	
L301	1-410-805-11	INDUCTOR 68NH	
L402	1-412-529-11	INDUCTOR 22UH	
L403	1-412-537-31	INDUCTOR 100UH	
L404	1-414-940-21	INDUCTOR 100UH	
L405	1-412-529-11	INDUCTOR 22UH	
		<IC LINK>	
PS401	⚠ 1-533-590-31	LINK, IC (1A/90V AC, 60V DC)	
		<TRANSISTOR>	
Q101	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q402	8-729-050-41	TRANSISTOR 2SJ360-TE12L	
Q406	8-729-216-22	TRANSISTOR 2SA1162-G	
Q407	8-729-028-74	TRANSISTOR DTA114TUA-T106	
Q410	8-729-032-61	TRANSISTOR 2SC5022-02	
		<RESISTOR>	
R101	1-215-394-00	METAL 75 1% 1/4W	
R103	1-215-394-00	METAL 75 1% 1/4W	
R104	1-216-049-91	RES-CHIP 1K 5% 1/10W	
R105	1-216-017-91	RES-CHIP 47 5% 1/10W	
R106	1-216-017-91	RES-CHIP 47 5% 1/10W	
R107	1-216-045-00	RES-CHIP 680 5% 1/10W	
R109	1-216-075-00	RES-CHIP 12K 5% 1/10W	
R110	1-216-097-91	RES-CHIP 100K 5% 1/10W	
R111	1-216-041-00	RES-CHIP 470 5% 1/10W	
R112	1-216-015-00	RES-CHIP 39 5% 1/10W	
R113	1-216-017-91	RES-CHIP 47 5% 1/10W	
R114	1-216-009-91	RES-CHIP 22 5% 1/10W	
R115	1-219-742-11	CARBON 47 5% 1/2W	
R116	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R117	1-216-121-91	RES-CHIP 1M 5% 1/10W	
R118	1-216-121-91	RES-CHIP 1M 5% 1/10W	
R119	1-216-077-91	RES-CHIP 15K 5% 1/10W	
R120	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R121	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R122	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R128	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R130	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R137	1-249-412-11	CARBON 390 5% 1/4W	
R138	1-216-027-00	RES-CHIP 120 5% 1/10W	
R161	1-216-041-00	RES-CHIP 470 5% 1/10W	
R201	1-215-394-00	METAL 75 1% 1/4W	
R202	1-216-097-91	RES-CHIP 100K 5% 1/10W	
R203	1-215-394-00	METAL 75 1% 1/4W	
R204	1-216-049-91	RES-CHIP 1K 5% 1/10W	
R205	1-216-017-91	RES-CHIP 47 5% 1/10W	
R206	1-216-017-91	RES-CHIP 47 5% 1/10W	
R207	1-216-045-00	RES-CHIP 680 5% 1/10W	
R209	1-216-075-00	RES-CHIP 12K 5% 1/10W	
R210	1-216-097-91	RES-CHIP 100K 5% 1/10W	
R211	1-216-025-91	RES-CHIP 100 5% 1/10W	
R212	1-216-019-00	RES-CHIP 56 5% 1/10W	
R213	1-216-017-91	RES-CHIP 47 5% 1/10W	
R214	1-216-009-91	RES-CHIP 22 5% 1/10W	
R215	1-219-742-11	CARBON 47 5% 1/2W	
R216	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R217	1-216-121-91	RES-CHIP 1M 5% 1/10W	
R218	1-216-121-91	RES-CHIP 1M 5% 1/10W	
R219	1-216-077-91	RES-CHIP 15K 5% 1/10W	
R220	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R221	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R222	1-216-081-00	RES-CHIP 22K 5% 1/10W	
R228	1-216-065-91	RES-CHIP 4.7K 5% 1/10W	
R230	1-216-113-00	RES-CHIP 470K 5% 1/10W	
R237	1-249-412-11	CARBON 390 5% 1/4W	
R238	1-216-027-00	RES-CHIP 120 5% 1/10W	
R261	1-216-041-00	RES-CHIP 470 5% 1/10W	
R301	1-215-394-00	METAL 75 1% 1/4W	

A H

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Replace only with the part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
R303	1-215-394-00	METAL	75	1%	1/4W
R304	1-216-049-91	RES-CHIP	1K	5%	1/10W
R305	1-216-017-91	RES-CHIP	47	5%	1/10W
R306	1-216-017-91	RES-CHIP	47	5%	1/10W
R307	1-216-045-00	RES-CHIP	680	5%	1/10W
R309	1-216-075-00	RES-CHIP	12K	5%	1/10W
R310	1-216-097-91	RES-CHIP	100K	5%	1/10W
R311	1-216-041-00	RES-CHIP	470	5%	1/10W
R312	1-216-017-91	RES-CHIP	47	5%	1/10W
R313	1-216-017-91	RES-CHIP	47	5%	1/10W
R314	1-216-009-91	RES-CHIP	22	5%	1/10W
R315	1-219-742-11	CARBON	47	5%	1/2W
R316	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R317	1-216-121-91	RES-CHIP	1M	5%	1/10W
R318	1-216-121-91	RES-CHIP	1M	5%	1/10W
R319	1-216-077-91	RES-CHIP	15K	5%	1/10W
R320	1-216-113-00	RES-CHIP	470K	5%	1/10W
R321	1-216-113-00	RES-CHIP	470K	5%	1/10W
R322	1-216-081-00	RES-CHIP	22K	5%	1/10W
R328	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R330	1-216-113-00	RES-CHIP	470K	5%	1/10W
R337	1-249-412-11	CARBON	390	5%	1/4W
R338	1-216-027-00	RES-CHIP	120	5%	1/10W
R361	1-216-041-00	RES-CHIP	470	5%	1/10W
R402	1-216-049-91	RES-CHIP	1K	5%	1/10W
R403	1-216-081-00	RES-CHIP	22K	5%	1/10W
R404	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R405	1-216-045-00	RES-CHIP	680	5%	1/10W
R406	1-216-097-91	RES-CHIP	100K	5%	1/10W
R407	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R409	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R411	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R412	1-216-105-91	RES-CHIP	220K	5%	1/10W
R413	1-216-097-91	RES-CHIP	100K	5%	1/10W
R414	1-216-089-91	RES-CHIP	47K	5%	1/10W
R415	1-216-097-91	RES-CHIP	100K	5%	1/10W
R417	1-216-121-91	RES-CHIP	1M	5%	1/10W
R418	1-260-127-11	CARBON	220K	5%	1/2W
R419	1-216-033-00	RES-CHIP	220	5%	1/10W
R420	1-216-025-91	RES-CHIP	100	5%	1/10W
R421	1-216-025-91	RES-CHIP	100	5%	1/10W
R422	1-216-025-91	RES-CHIP	100	5%	1/10W
R424	1-216-049-91	RES-CHIP	1K	5%	1/10W
R425	1-216-049-91	RES-CHIP	1K	5%	1/10W
R426	1-216-105-91	RES-CHIP	220K	5%	1/10W
R427	1-216-049-91	RES-CHIP	1K	5%	1/10W
R428	1-216-025-91	RES-CHIP	100	5%	1/10W
R430	1-216-025-91	RES-CHIP	100	5%	1/10W
R431	1-216-113-00	RES-CHIP	470K	5%	1/10W
R436	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R438	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R439	1-216-041-00	RES-CHIP	470	5%	1/10W
R441	1-216-121-91	RES-CHIP	1M	5%	1/10W
R442	1-216-049-91	RES-CHIP	1K	5%	1/10W
R443	1-216-025-91	RES-CHIP	100	5%	1/10W
R444	1-216-025-91	RES-CHIP	100	5%	1/10W
R445	1-216-025-91	RES-CHIP	100	5%	1/10W
R446	1-216-025-91	RES-CHIP	100	5%	1/10W
R447	1-216-017-91	RES-CHIP	47	5%	1/10W
R448	1-216-017-91	RES-CHIP	47	5%	1/10W
R449	1-216-081-00	RES-CHIP	22K	5%	1/10W
R450	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R451	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R453	1-216-073-00	RES-CHIP	10K	5%	1/10W
R454	1-216-129-00	RES-CHIP	2.2M	5%	1/10W
R455	1-216-097-91	RES-CHIP	100K	5%	1/10W
R456	1-216-025-91	RES-CHIP	100	5%	1/10W
R457	1-211-895-11	METAL	10M	10%	1/4W
R458	1-219-398-51	METAL	2.2M	5%	1W
R459	1-211-895-11	METAL	10M	10%	1/4W
R460	1-216-073-00	RES-CHIP	10K	5%	1/10W
R463	1-216-097-91	RES-CHIP	100K	5%	1/10W
R464	1-216-057-00	RES-CHIP	2.2K	5%	1/10W
R488	1-216-089-91	RES-CHIP	47K	5%	1/10W
R490	1-216-065-91	RES-CHIP	4.7K	5%	1/10W
R491	1-216-065-91	RES-CHIP	4.7K	5%	1/10W

<SPARK GAP>

SG101	1-576-354-21	GAP, SPARK	
SG201	1-576-354-21	GAP, SPARK	
SG301	1-576-354-21	GAP, SPARK	
SG401	1-576-354-21	GAP, SPARK	
SG402	1-519-422-11	GAP, SPARK	

<SOCKET>

SK401	⚠ 1-451-524-11	SOCKET, PICTURE TUBE	

<CRYSTAL>

X401	1-781-472-21	VIBRATOR, CERAMIC (8MHz)	

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* 8-933-439-00 BLOCK ASSY, CONTROL (H BOARD)
****

<CAPACITOR>

C802	1-126-791-11	ELECT	10UF	20.00%	16V
C806	1-126-786-11	ELECT	47UF	20.00%	16V

<CONNECTOR>

CN801	1-573-397-11	CONNECTOR, F.P.C 11P
CN802*	1-564-505-11	PLUG, CONNECTOR 2P

<DIODE>

D801	8-719-059-93	DIODE SPR-505MVWT31 (POWER)

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<FERRITE BEAD>			
FB801	1-216-295-91	SHORT	0		
FB802	1-216-295-91	SHORT	0		
FB803	1-216-295-91	SHORT	0		
FB804	1-216-295-91	SHORT	0		
FB805	1-216-295-91	SHORT	0		
		<CHIP CONDUCTOR>			
JR1	1-216-295-91	SHORT	0		
JR4	1-216-295-91	SHORT	0		
		<TRANSISTOR>			
Q801	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q802	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q803	8-729-027-31	TRANSISTOR DTA124EKA-T146			
Q804	8-729-027-31	TRANSISTOR DTA124EKA-T146			
		<RESISTOR>			
R801	1-216-049-91	RES-CHIP	1K	5%	1/10W
R802	1-216-041-00	RES-CHIP	470	5%	1/10W
R803	1-216-033-00	RES-CHIP	220	5%	1/10W
R804	1-216-033-00	RES-CHIP	220	5%	1/10W
R811	1-216-073-00	RES-CHIP	10K	5%	1/10W
R812	1-216-073-00	RES-CHIP	10K	5%	1/10W
R813	1-216-081-00	RES-CHIP	22K	5%	1/10W
R814	1-216-097-91	RES-CHIP	100K	5%	1/10W
R815	1-216-675-91	METAL CHIP	10K	0.50%	1/10W
R821	1-215-401-11	METAL	150	1%	1/4W
R822	1-215-413-00	METAL	470	1%	1/4W
R823	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R824	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R851	1-216-041-00	RES-CHIP	470	5%	1/10W
R852	1-216-025-91	RES-CHIP	100	5%	1/10W
R853	1-216-025-91	RES-CHIP	100	5%	1/10W
		<SWITCH>			
S801	1-771-734-11	SWITCH, TACTILE (BRT +/-, CONT +/-)			
S811	1-572-347-21	SWITCH, SLIDE (INPUT 1/2)			
S812	1-571-760-11	SWITCH, KEYBOARD (RESET)			
S813	1-571-760-11	SWITCH, KEYBOARD (ASC)			
		<THERMISTOR>			
TH801	1-807-796-11	THERMISTOR			

****

REF.NO.	PART NO.	DESCRIPTION			REMARK
*	A-1395-007-A	US BOARD, COMPLETE			
		**********			
		<CAPACITOR>			
C2601	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2602	1-126-791-11	ELECT	10UF	20.00%	16V
C2603	1-126-791-11	ELECT	10UF	20.00%	16V
C2604	1-126-791-11	ELECT	10UF	20.00%	16V
C2605	1-126-791-11	ELECT	10UF	20.00%	16V
C2606	1-126-176-11	ELECT	220UF	20.00%	10V
C2607	1-126-176-11	ELECT	220UF	20.00%	10V
C2608	1-126-176-11	ELECT	220UF	20.00%	10V
C2609	1-126-176-11	ELECT	220UF	20.00%	10V
C2610	1-113-340-11	ELECT	47UF	20.00%	25V
C2612	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2901	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2902	1-113-340-11	ELECT	47UF	20.00%	25V
C2904	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
C2905	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C2906	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C2908	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C2909	1-163-237-11	CERAMIC CHIP	27PF	5.00%	50V
C2912	1-163-235-11	CERAMIC CHIP	22PF	5.00%	50V
C2914	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C2915	1-164-489-11	CERAMIC CHIP	0.22UF	10.00%	16V
C2916	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2917	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2918	1-164-004-11	CERAMIC CHIP	0.1UF	10.00%	25V
C2923	1-163-021-91	CERAMIC CHIP	0.01UF	10.00%	50V
		<CONNECTOR>			
CN2601	* 1-778-681-11	PIN, CONNECTOR (PC BOARD) 5P			
CN2901	1-779-677-11	CONNECTOR, USB (B)			
CN2902	1-779-676-11	CONNECTOR, USB (A)			
CN2903	1-779-676-11	CONNECTOR, USB (A)			
CN2904	1-779-676-11	CONNECTOR, USB (A)			
CN2905	1-779-676-11	CONNECTOR, USB (A)			
		<DIODE>			
D2601	8-719-158-15	ZENER DIODE RD5.6S-B			
D2604	8-719-911-19	DIODE 1SS119-25			
D2605	8-719-911-19	DIODE 1SS119-25			
D2606	8-719-911-19	DIODE 1SS119-25			
D2607	8-719-911-19	DIODE 1SS119-25			
D2902	8-719-422-12	ZENER DIODE MA8039			
D2903	8-719-422-12	ZENER DIODE MA8039			
D2904	8-719-158-15	ZENER DIODE RD5.6S-B			
D2905	8-719-158-15	ZENER DIODE RD5.6S-B			
D2906	8-719-158-15	ZENER DIODE RD5.6S-B			
D2907	8-719-158-15	ZENER DIODE RD5.6S-B			
D2908	8-719-422-12	ZENER DIODE MA8039			
D2909	8-719-422-12	ZENER DIODE MA8039			
D2910	8-719-422-12	ZENER DIODE MA8039			
D2911	8-719-422-12	ZENER DIODE MA8039			

US

REF.NO.	PART NO.	DESCRIPTION		REMARK
D2912	8-719-422-12	ZENER DIODE MA8039		
D2913	8-719-422-12	ZENER DIODE MA8039		
D2914	8-719-422-12	ZENER DIODE MA8039		
D2915	8-719-422-12	ZENER DIODE MA8039		
	<FERRITE BEAD>			
FB2601	1-412-911-11	FERRITE	1.1UH	
FB2602	1-412-911-11	FERRITE	1.1UH	
FB2901	1-412-911-11	FERRITE	1.1UH	
FB2903	1-412-911-11	FERRITE	1.1UH	
FB2904	1-412-911-11	FERRITE	1.1UH	
FB2905	1-412-911-11	FERRITE	1.1UH	
FB2906	1-412-911-11	FERRITE	1.1UH	
FB2911	1-412-911-11	FERRITE	1.1UH	
FB2912	1-216-295-91	SHORT	0	
FB2913	1-216-295-91	SHORT	0	
FB2914	1-216-295-91	SHORT	0	
FB2915	1-216-295-91	SHORT	0	
FB2916	1-216-295-91	SHORT	0	
FB2917	1-216-295-91	SHORT	0	
FB2918	1-216-295-91	SHORT	0	
FB2919	1-216-295-91	SHORT	0	
FB2924	1-216-295-91	SHORT	0	
FB2925	1-216-295-91	SHORT	0	
FB2936	1-414-766-22	INDUCTOR CHIP		
	<IC>			
IC2601	8-759-431-14	IC PQ3TZ53U		
IC2602	8-759-639-01	IC SDI02-V1		
IC2603	8-759-639-01	IC SDI02-V1		
IC2901	8-759-660-89	IC KC82C160SH		
IC2902	8-759-165-87	IC PST600J-T		
	<TRANSISTOR>			
Q2601	8-729-029-06	TRANSISTOR DTC124EUA-T106		
Q2602	8-729-029-06	TRANSISTOR DTC124EUA-T106		
Q2603	8-729-029-06	TRANSISTOR DTC124EUA-T106		
Q2604	8-729-029-06	TRANSISTOR DTC124EUA-T106		
	<RESISTOR>			
R2601	1-216-081-00	RES-CHIP	22K	5% 1/10W
R2602	1-216-349-00	METAL OXIDE	1	5% 1W
R2603	1-216-347-11	METAL OXIDE	0.68	5% 1W
R2604	1-216-349-00	METAL OXIDE	1	5% 1W
R2605	1-216-347-11	METAL OXIDE	0.68	5% 1W
R2607	1-216-349-00	METAL OXIDE	1	5% 1W
R2608	1-216-347-11	METAL OXIDE	0.68	5% 1W
R2609	1-216-349-00	METAL OXIDE	1	5% 1W
R2610	1-216-347-11	METAL OXIDE	0.68	5% 1W
R2611	1-216-049-91	RES-CHIP	1K	5% 1/10W
R2612	1-216-049-91	RES-CHIP	1K	5% 1/10W
R2613	1-216-049-91	RES-CHIP	1K	5% 1/10W
R2614	1-216-049-91	RES-CHIP	1K	5% 1/10W
R2618	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2619	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2620	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2621	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2622	1-216-033-00	RES-CHIP	220	5% 1/10W
R2901	1-216-013-00	RES-CHIP	33	5% 1/10W
R2902	1-216-057-00	RES-CHIP	2.2K	5% 1/10W
R2903	1-216-121-91	RES-CHIP	1M	5% 1/10W
R2904	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R2905	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2906	1-216-022-00	RES-CHIP	75	5% 1/10W
R2907	1-216-039-00	RES-CHIP	390	5% 1/10W
R2908	1-216-073-00	RES-CHIP	10K	5% 1/10W
R2909	1-216-065-91	RES-CHIP	4.7K	5% 1/10W
R2915	1-216-053-00	RES-CHIP	1.5K	5% 1/10W
R2916	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2919	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2920	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2923	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2924	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2925	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2926	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2927	1-216-013-00	RES-CHIP	33	5% 1/10W
R2928	1-216-013-00	RES-CHIP	33	5% 1/10W
R2930	1-216-009-91	RES-CHIP	22	5% 1/10W
R2931	1-216-009-91	RES-CHIP	22	5% 1/10W
R2932	1-216-077-91	RES-CHIP	15K	5% 1/10W
R2933	1-216-013-00	RES-CHIP	33	5% 1/10W
R2934	1-216-013-00	RES-CHIP	33	5% 1/10W
R2935	1-216-013-00	RES-CHIP	33	5% 1/10W
R2941	1-216-013-00	RES-CHIP	33	5% 1/10W
R2942	1-216-013-00	RES-CHIP	33	5% 1/10W
	<CRYSTAL>			
X2901	1-767-925-21	VIBRATOR, CRYSTAL (12MHz)		

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